DRUG & COSMETIC INDUSTRY

MARCH, 1951

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FRANCIS CHILSON, Production Consultant
MILTON A. LESSER, Technical Editor
HARRY G. KELBLY, Raw Material Editor
FRANK CHILD III, News Editor
MAX FRANKEL, Art Director

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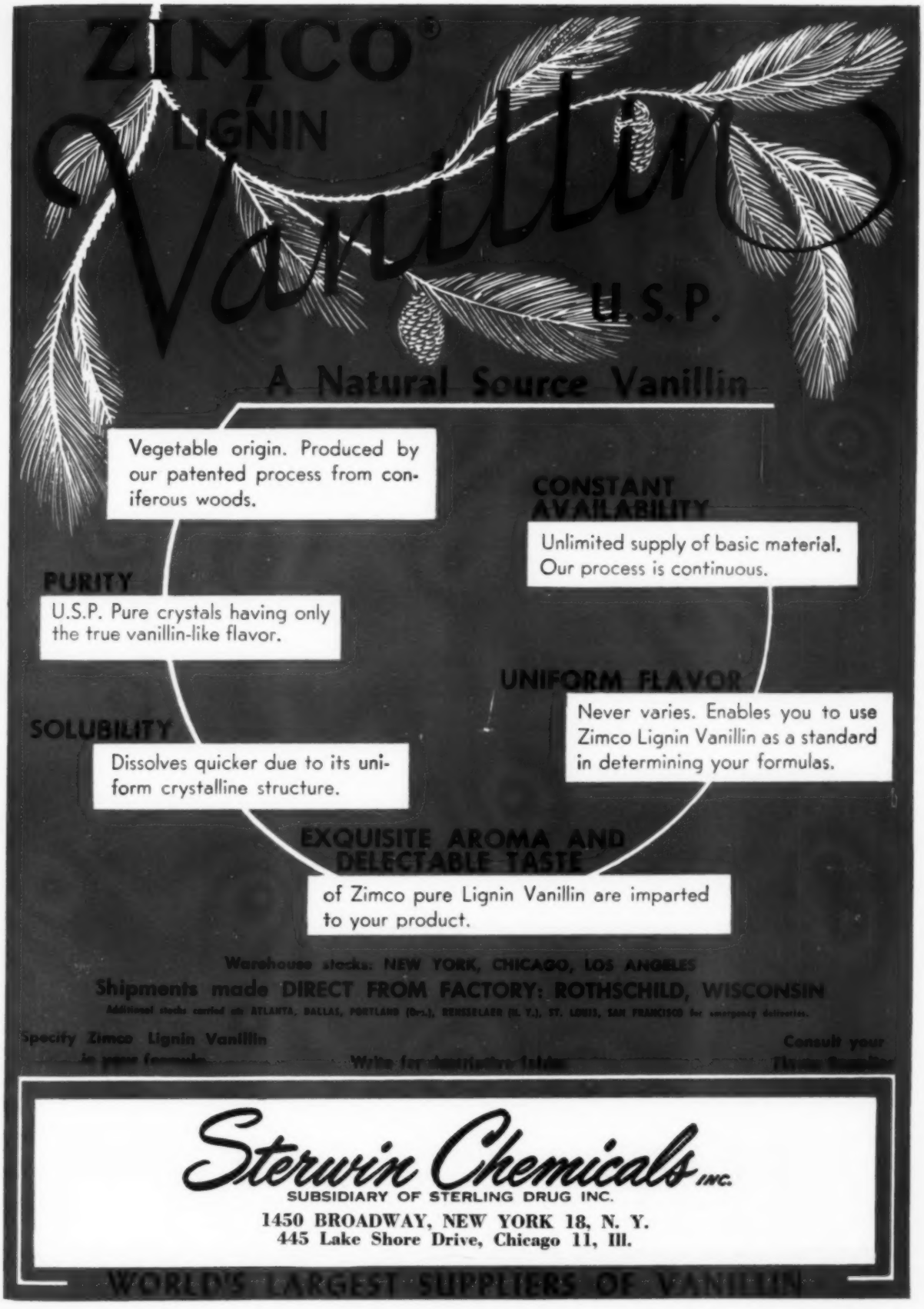
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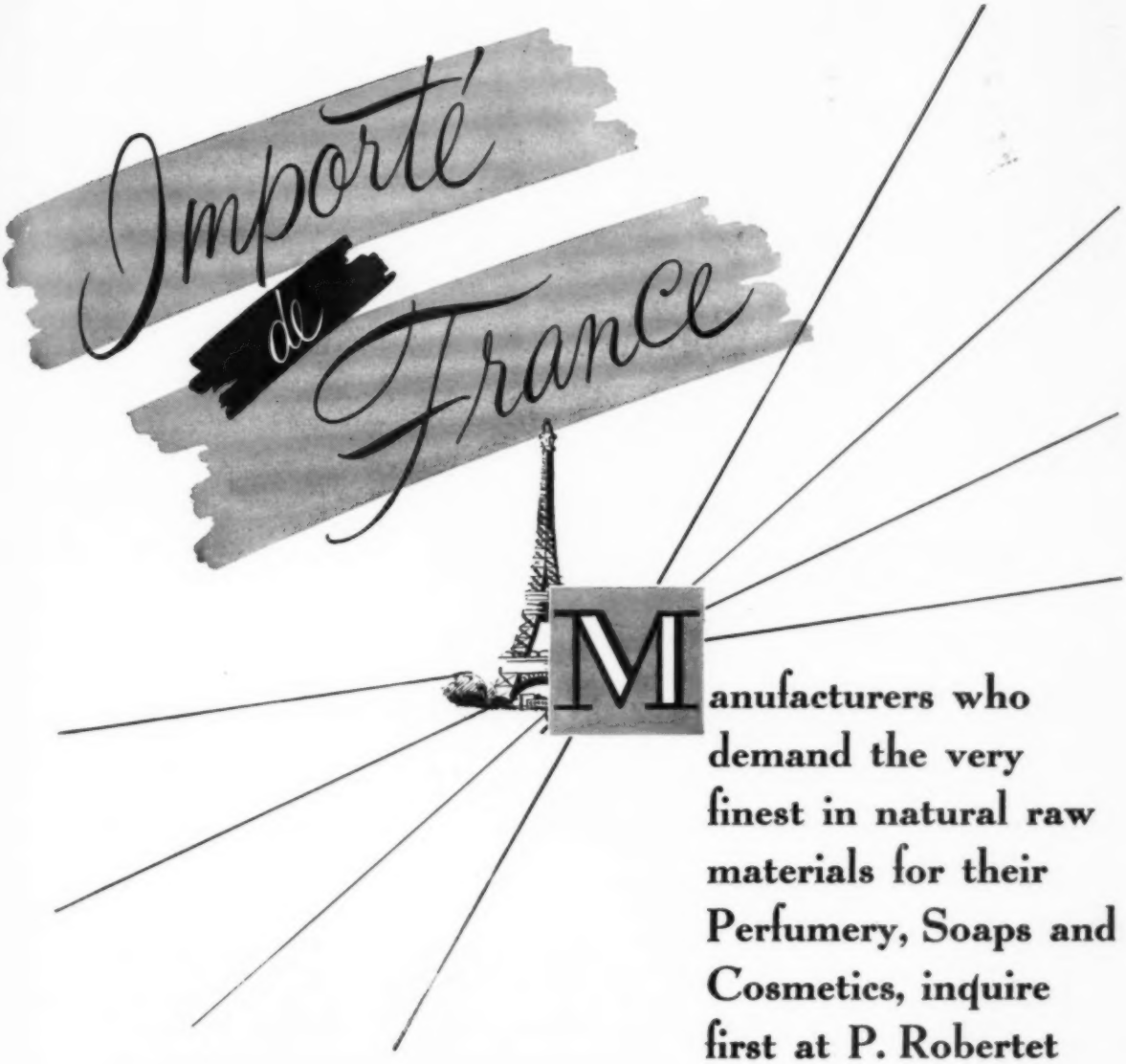

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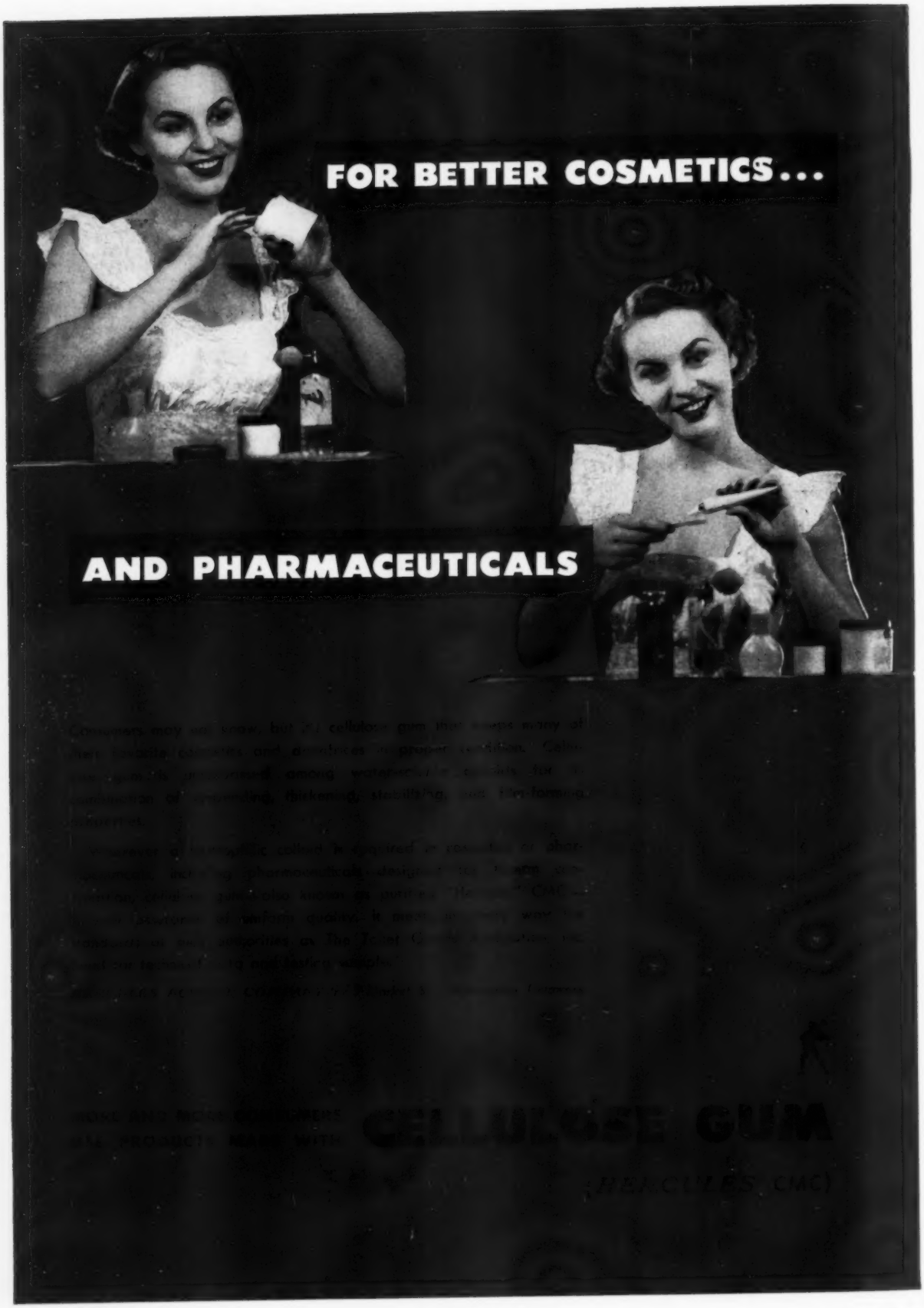
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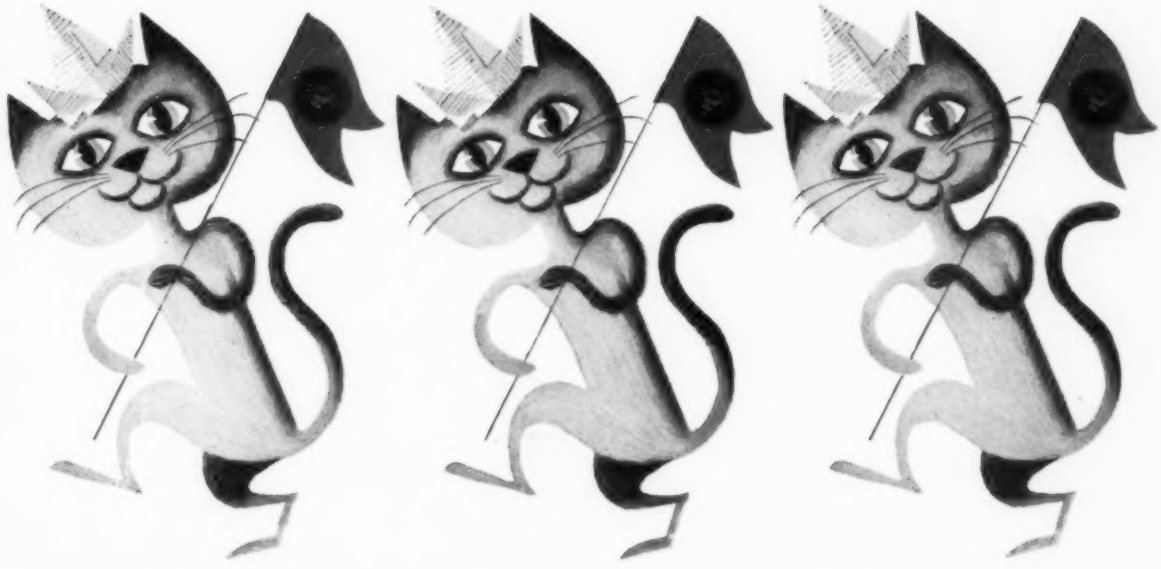

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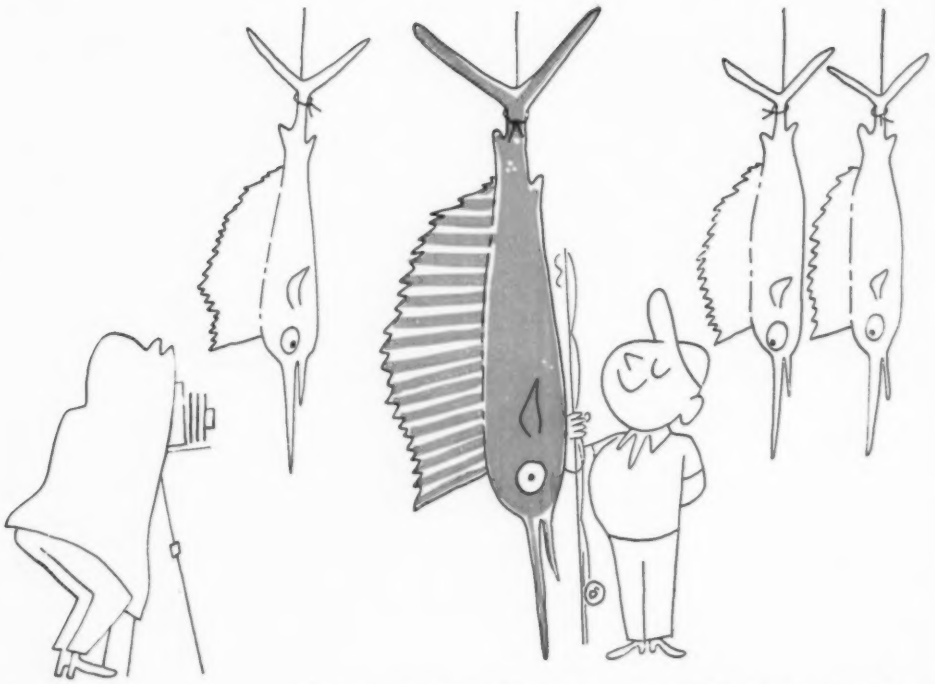

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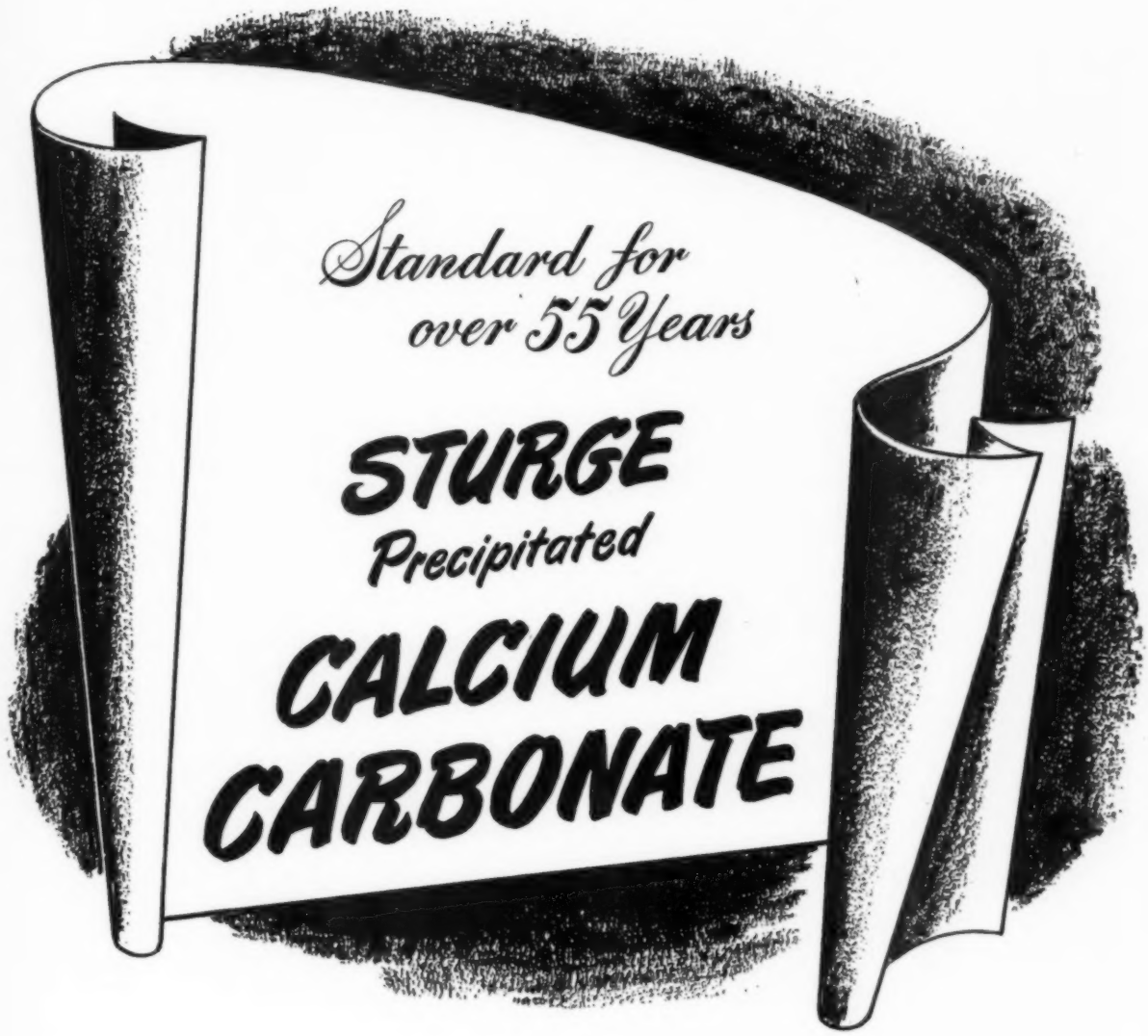

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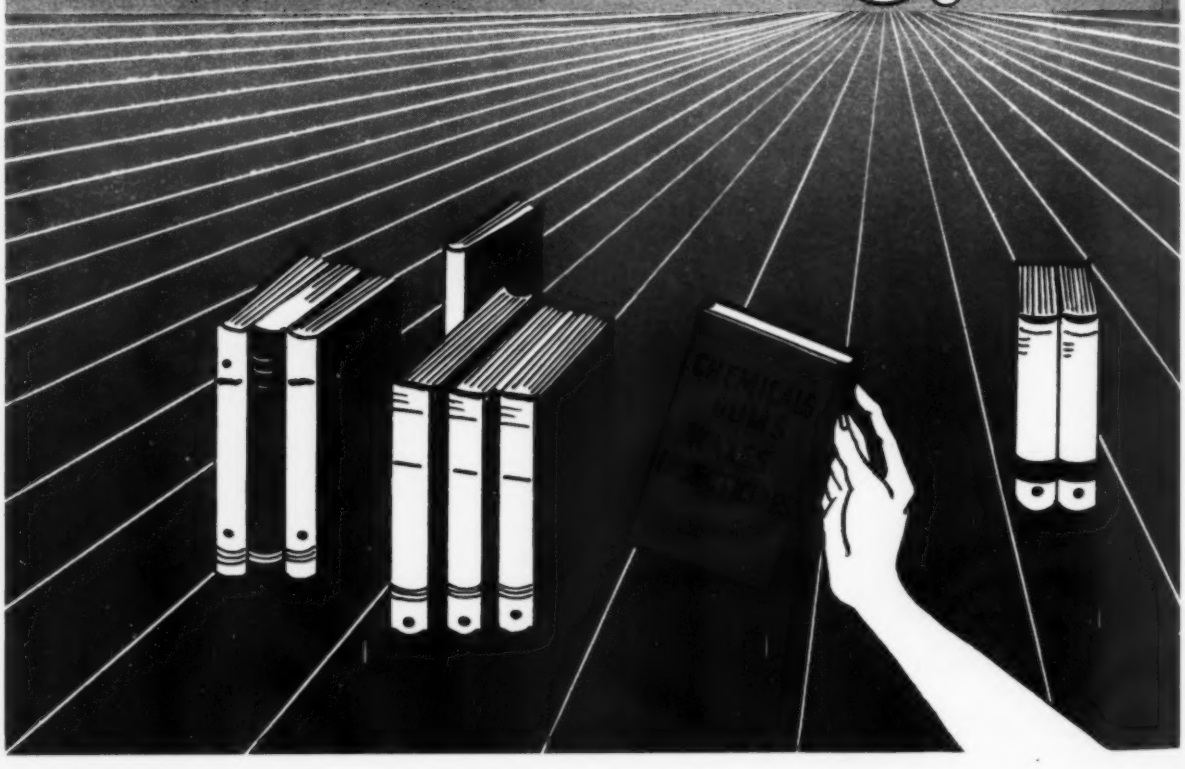

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2. Lehr, D.: New York State J. Med. *50*:1361, 1950.

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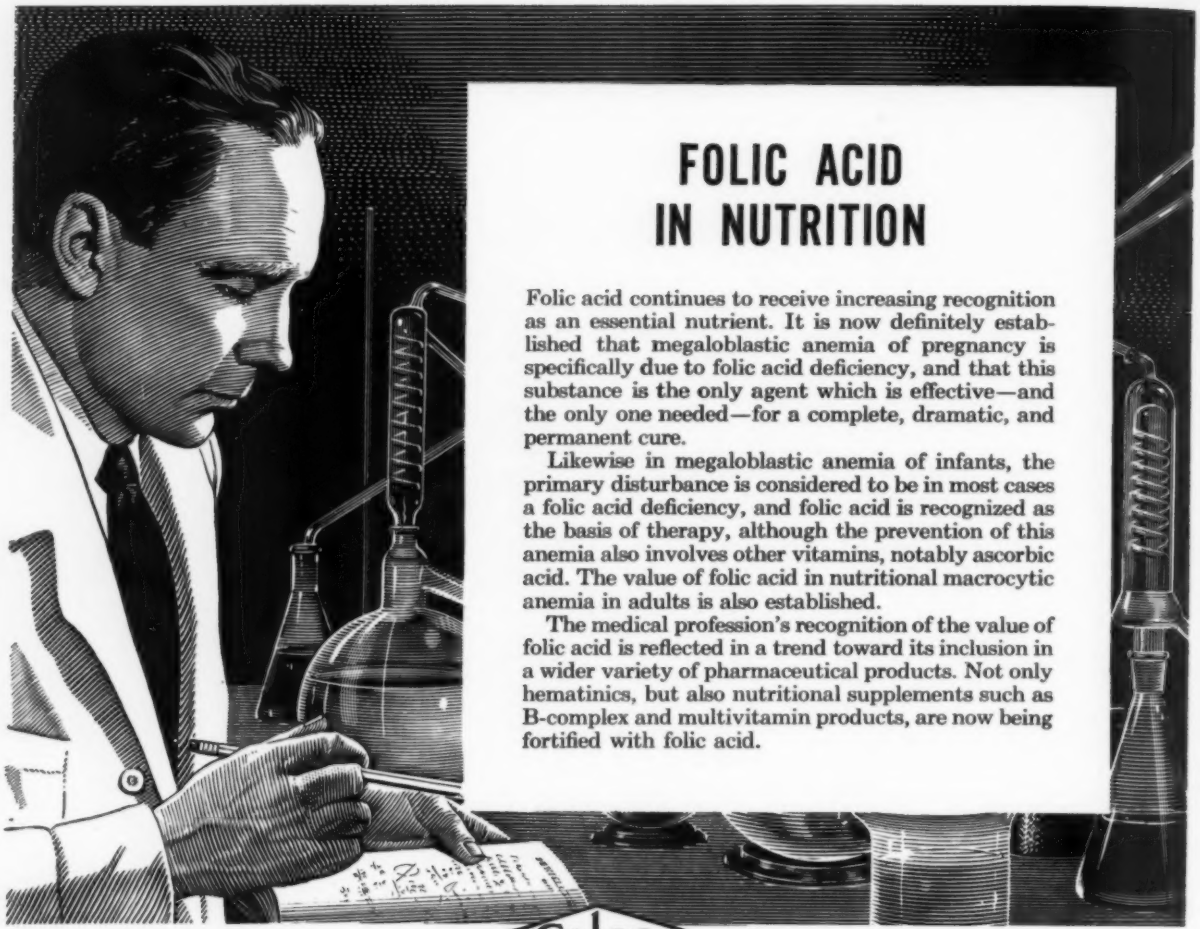

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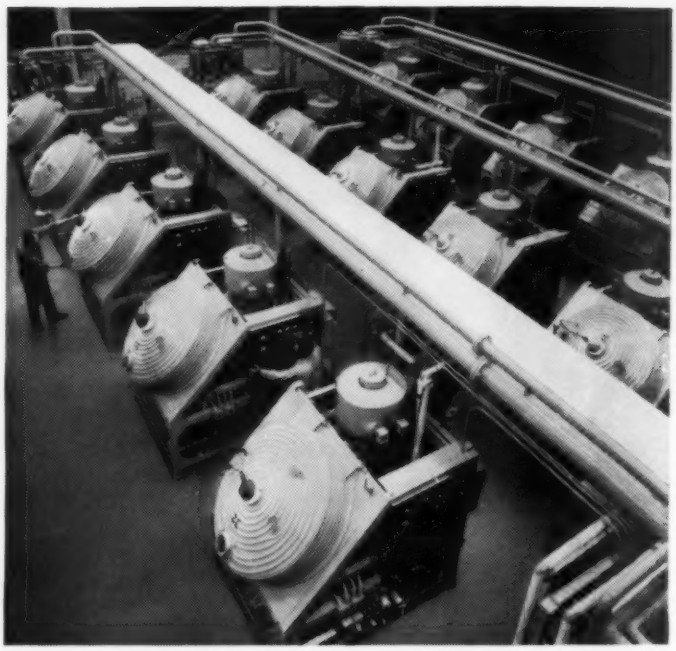

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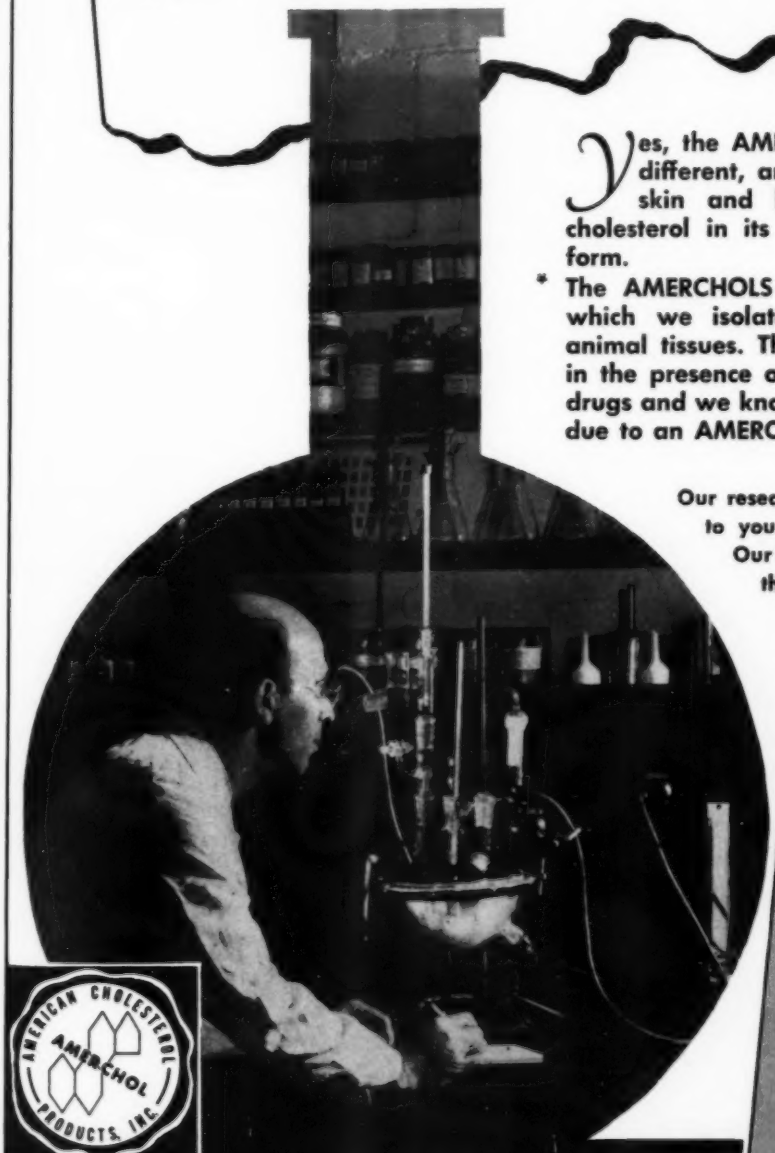

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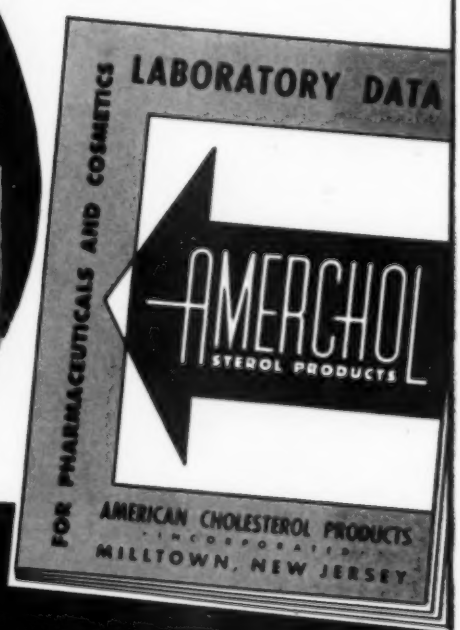
Our research laboratories are available to you for advice and information. Our booklet will help you formulate the AMERCHOLS in O/W and W/O emulsions.



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Since entering the consulting field he has been a contributor to *Drug and Cosmetic Industry*.

In his capacity as a consultant the author has been supplying coating instructions to his clients in various parts of the world at a substantial fee. This confidential copyrighted treatise was entitled *The Fundamental Procedure for Coating Tablets* and forms the basis for this text.

The original treatise has been greatly expanded and here it is at a fraction of the original price!

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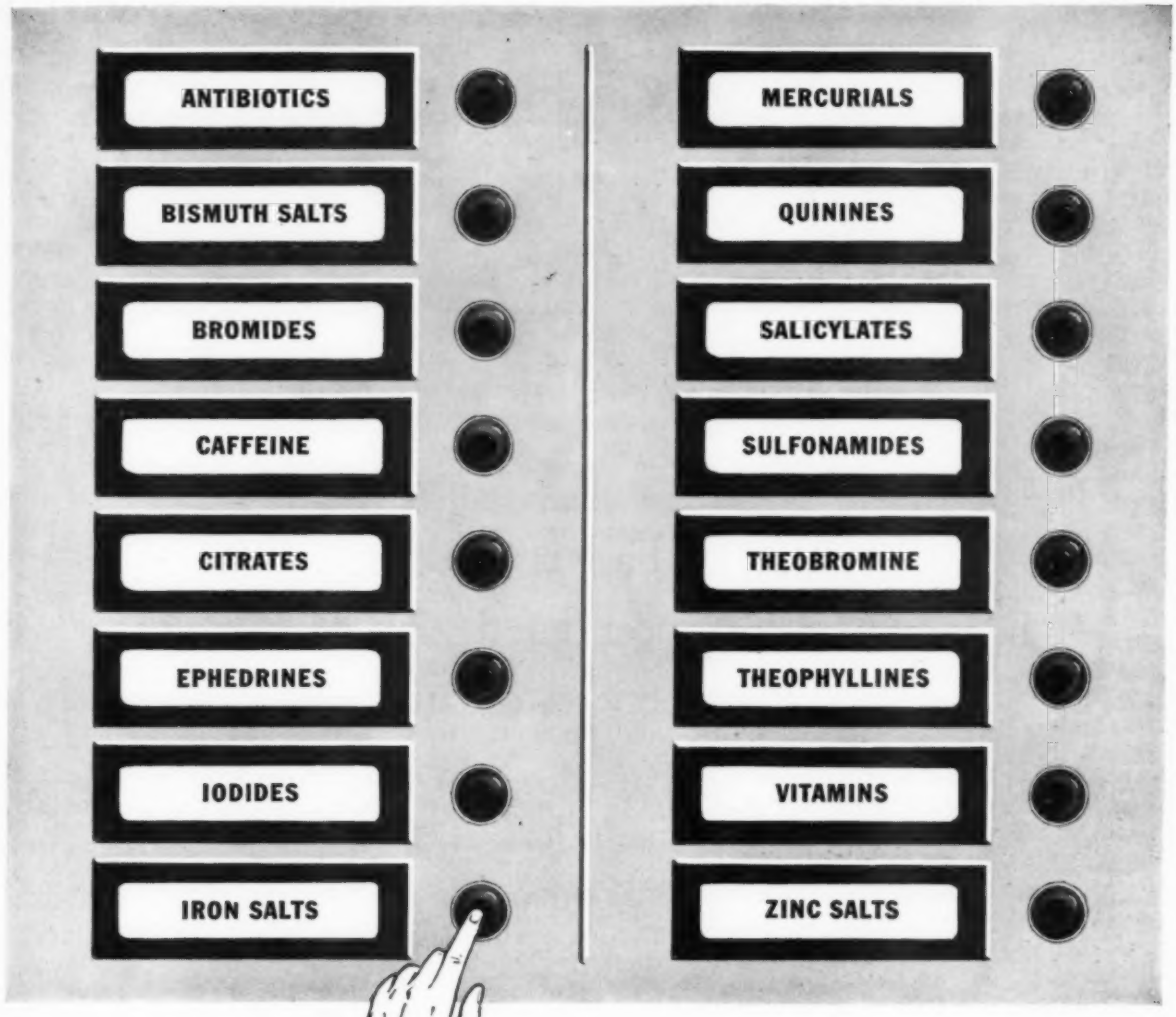

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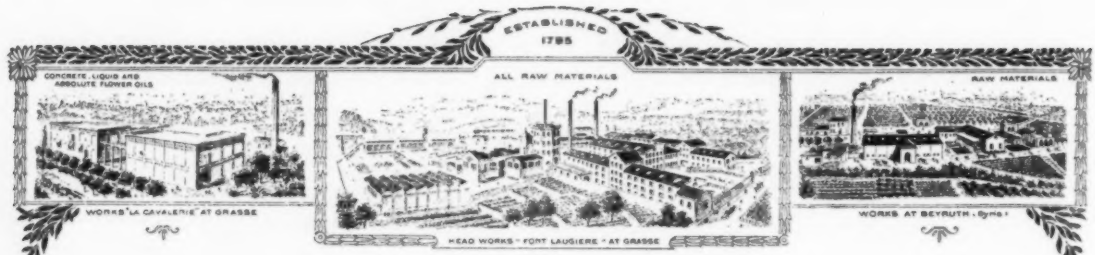

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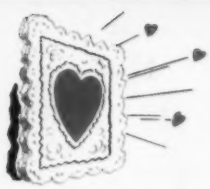

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When I enter the store of any of these retailers, I am sure of a welcome based on long, friendly associations. I know the folks who do the buying; more important I know the folks who do the selling. I know how to get the attention of these folks, how to get my story over without stepping on anyone's toes.

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I would expect you to give me a clear, concise story of your product—its quality, competitive advantages and selling points. I would need to know your advertising program, so that I can build up in the mind of these retail folks the expectation of substantial consumer interest. I want also to know about your company policies so that I can win friendly admiration for your products and your company.

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My name is BEAUTY FASHION:

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there's more to a perfume than meets the nose

In the development of the lovely fragrance suggestive of Nature's garden, many floral notes are blended, although not individually apparent to the nose. The perfumer's task is made easier and his compounding more original by the judicious use of Givaudan's floral specialties built around the fresh odor of

HYACINTH

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Jacinthone—an excellent modern realization of the flower odor, fresh and tenacious

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Phosphors must be made from the purest of pure chemicals—their impurities reduced to fractional parts per million. With such requirements, it is natural that the television industry looks to Mallinckrodt as a prime source of extreme purity chemicals for phosphor production. Mallinckrodt also cooperates with the television industry in supplying unusual chemicals for continuing exploratory research.

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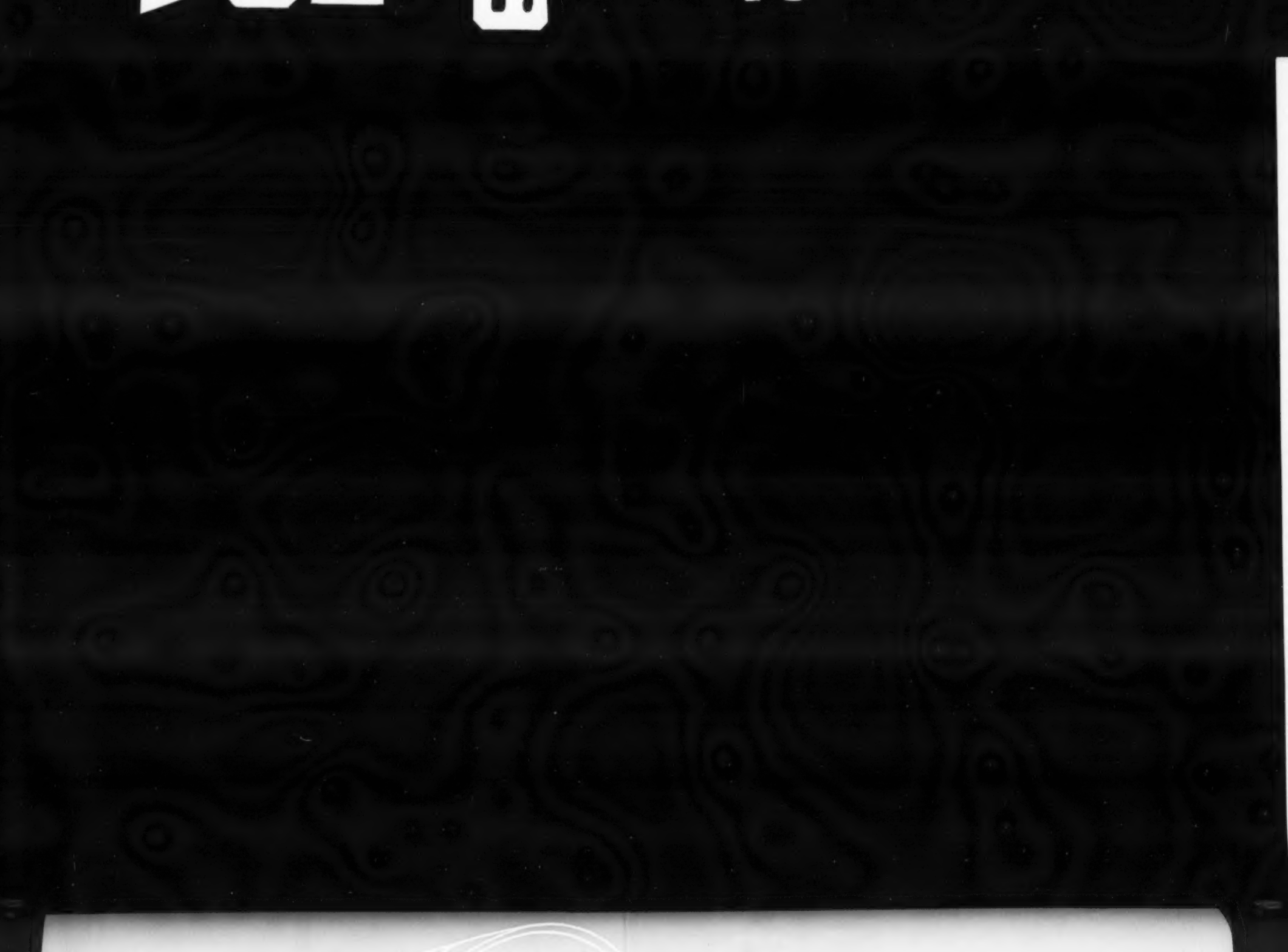


"I decided to stock up—the way things are going, you never can tell when they'll start rationing the necessities of life."

KEEPING POSTED

Cutter to Sell Stock

CUTTER Laboratories Berkeley, Calif., is offering stock to the public. The company has increased the common stock from 400,000 shares to 1,200,000 shares of $1 per value and is filing with the S.E.C. offer an undetermined number of shares to the public on a nation-wide basis Proceeds of the sale of stock will be added to the general company funds. Cutter Laboratories, founded in 1897 by E. A. Cutter Sr., is said to be the largest producer of serums West of the Mississippi, as well as the only producer of penicillin in that area, and is further reported to be the only laboratory in the Western United States manufacturing pharmaceuticals and a complete line of biologicals. During World War II, the company processed more than 1,500,000 pints of plasma, representing one-seventh of all blood plasma contributed to the Armed Forces through the American Red Cross. At present large quantities of blood are being handled for the use of the Armed Forces. Furthermore, the company is the only commercial producer in the world for human blood fraction products, very important in the present day medical field. The company originally manufactured veterinary biologicals but soon branched into the human biological field. In 1933 the firm began production of dextrose and other hospital solutions for intravenous feeding. At present, Cutter claims to be one of the largest producers of these solutions in the world. Construction work has been started on a branch plant in Chattanooga, Tenn., which will primarily produce hospital solutions for the company's rapidly expanding eastern market. This plant should be in operation by next Summer's end. John Hancock Mutual Life Insurance Company recently purchased bonds of the company, and the preferred stock issued several years ago is solely held by Northwestern Mutual.

ACTH Supplies Plentiful

SUPPLIES of ACTH are sufficient to fill all orders and there is six weeks' supply on hand at the manufacturing laboratories, Armour & Co. have announced, adding that arrangements are also being made to further increase production to meet expanding demand. Several factors have contributed to increased supply of the drug, among them being better procurement of the raw material,—pituitary glands of hogs—improved manufacturing methods, and discovery by physicians that relatively small doses will produce the desired results. The function of ACTH in the body is to stimulate the cortex of the adrenal glands, causing them to increase the secretion of their 28 or more hormones in the proper natural proportions.

Fragrance Exhibit

DESCRIBED as a "modern presentation of the romance of fragrance," and based on the theme "Fragrance—Breath of Spring," the Fragrance Foundation presented an exhibit at the International Flower Show, held early this month at Grand Central Palace, New York. Historical containers and literature illustrated how fragrance has captured the imagination of man from the earliest times. Raw materials from all over the world were exhibited, revealing that perfume contains ingredients from far off places like Siam, India, Java, and Madagascar, as well as Europe and the United States. Science and its contribution to the making of beautiful scents was pictured, giving an idea of the continuous research in the fragrance industry to discover constantly better methods of producing quality perfumes, to seek ever new scents.

Nutrilite Case Progressing

THE Mytinger & Casselberry (Nutrilite) case is being set for trial in San Francisco, the ten libel actions having been consolidated and removed to that district for trial. The case was originally set for March 6, but this date was cancelled because one of the defense attorneys suffered a sudden heart attack.

As an indication of what a manufacturer is up against once those "nice fellows" in the Food and Drug Administration decide to do a job on him, we point out that on June 12, 1950 following the U. S. Supreme Court decision vacating the injunction against further seizures of Nutrilite by the FDA, John L. Harvey, Director of Regulatory Management of FDA, sent a letter to all Chiefs of Stations of FDA instructing them to use concealed microphones and hidden recording machines, and to attempt to lead Nutrilite distributors into making claims for cures. They were also urged to become Nutrilite distributors in an attempt

to get something on the sales methods of the company. Recently Mr. Harvey revealed in an affadavit that this nationwide investigation of Nutrilite has cost the Government approximately $20,000.

No one has yet been able to find out why the FDA decided to use just about every dirty trick imaginable against Nutrilite. Some point out that the fact that Nutrilite is sold house to house through agents, instead of being sold through the regular wholesale and retail drug channels might have something to do with it. These people are of the opinion that the FDA might want to impress on manufacturers using this type of distribution that they are subject to particular scrutiny because their products do not pass through the hands of the professional pharmacist. Another expresses the opinion that somewhere along the line in this case the jurisdiction of the FDA might have been questioned. This particular person, who is on extremely good terms with the officials of the FDA, states that when he questions their jurisdiction or authority in any regard, their attitude changes completely and they become definitely antagonistic and treat him in a manner in which they might be expected to treat someone they had never seen before.

Going After Supplies

THE Chemical Specialties Manufacturers Association is taking action with the National Production Authority to try and assure its 350 members of sufficient supplies of raw materials to maintain adequate production in the interests of public health and efficient industrial mobilization. At an emergency meeting held in New York last month, fifty key officials of member companies agreed to designate the U. S. Public Health Service as the claimant agency to deal with the N. P. A. Members of the Association produce disinfectants, germicides, household and industrial insecticides, and floor protectives, in a volume estimated at $500 million. A committee has been named to begin a study of production figures of the industry and to compile data on essential uses of its products. Committee members are: Carter Parkinson, McCormick & Co.; Dr. Emil Klarmann, Lehn & Fink; H. R. Shepherd, Connecticut Chemical Research Corporation; Bayard Johnson, Franklin Research Company; Perry Bartlett, West Disinfecting Company; C. L. Weirich, C. B. Dolge Company; Melvin Fuld, Fuld Brothers; and H. W. Hamilton.

Supreme Court and Fair Trade

THE FATE of Fair Trade in this country as it has existed since the enactment of the Miller-Tydings Amendment to the Sherman Act in 1937 is now in the hands of the U. S. Supreme Court. The court has accepted for review the Louisiana case in which the retailer involved claimed that the Miller-Tydings Amendment does not apply to retailers who have not signed contracts to maintain the prices of manufacturers. If the court rules in favor of this retailer and thus overrules the District Court and the Circuit Court of Appeals, it would mean that manufacturers would have to refuse to sell those retailers who refuse to sign contracts, and then they would be faced with the well-known problem of trying to police distributive channels in an attempt to keep their goods out of the hands of those who have not signed contracts. If the decision of the court is in favor of the retailer and the non-signer clause is deemed not operative in interstate commerce, Fair Trade, as it has existed since 1937, will be struck a mortal blow from which it will have a hard time recovering.

Boots Pure Drug Entering U. S.

BOOTS Pure Drug Company, Ltd., established in England in 1888 and now the largest drug manufacturer in the British Commonwealth, will enter the market in this country this Spring. The American company will be known as Boots Pure Drug Company (U.S.A.), Ltd., and will have offices at 270 Park Avenue, New York, under the direction of Stuart Farlow, vice-president, who will head operations in this country. The first product to be introduced here is a laxative called Blandlax, which is senna laxative accounting for large sales in most parts of the world. Blandlax, which is in the form of gumdrop, has a pleasant taste and gentle effectiveness. Plans are also being drawn to market other products of the company.

For Freedom of Medical Press

FIVE hundred physicians, and health and welfare leaders attended a dinner at the Waldorf-Astoria Hotel, New York, held under the auspices of the Physicians Forum, to plan for a national information program to acquaint physicians with data favoring government aid to medical schools and public health programs. The purpose was described as a move "to re-establish freedom of the medical press," it being asserted that the publications of the American Medical Association deny space for pro and con discussions of health proposals involving government aid or sponsorship. It was said that the "national information" project would try to supply to physicians data on government aid to medical institutions, shortcomings in hospital financing, voluntary medical insurance plans and discrimination in medical training. Speakers at the function included Dr. Allan M. Butler, Professor of Pediatrics at Harvard Medical School, and Dr. Ernest P. Boas, Assistant Professor of Clinical Medicine at Columbia University.

Toni Ups Research

FOR THE YEAR 1951, expenditures for scientific research by the Toni Company will exceed $500,000. Raymond E. Reed, vice-president in charge of research and development for Toni, states that scores of scientists will be engaged full time in attacking many basic problems relating to the physical and chemical properties of human hair and skin, adding:

"Our research program is designed to benefit the public by providing products that are more effective and of better quality than ever before. In addition, we are working to devlop the cosmetic products of the future."

The greater part of the 1951 program will be implemented in Toni's own laboratories in Chicago and St. Paul, but extensive work will also be undertaken in various universities and outside independent laboratories. Direct supervisor of research activities is Dr. Joseph H. Brant, who joined Toni last year following more than 15 years of scientific experience in the fields of textile and chemical research and development. Besides its theoretical work on the pharmacological and dermatological properties of home waving lotions and other hair-care products, Toni will continue to operate its large "use-test" research clinic in Chicago. During the past three years, more than 12,000 Chicago-area women have volunteered for "use" tests with various cosmetic preparations in salon. In return for complimentary permanent waves and hair sets, the women report back to the clinic periodically for further observation by Toni laboratory personnel.

F.T.C. Uses Injunction Against Imdrin

THE INJUNCTION powers of the Federal Trade Commission in charges of false advertising, which powers the Commission recently announced it intended to use, were resorted to by the Commission in a case brought against Rhodes Pharmacal Co., Chicago, because of their advertising of Imdrin. The FTC asked the U. S. District Court for a preliminary injunction which would be made effective pending final disposition of a Commission proceeding on the charge of misrepresentation of the therapeutic properties and effectiveness of Imdrin in treatment of arthritis, rheumatism, neuritis, sciatica, gout, neuralgia, fibrositis, and bursitis. In asking for the injunction, the Commission said the further dissemination of Imdrin advertisements alleged to be false "may cause immediate and irreparable injury to the public in that persons induced by such false advertisments to purchase said preparation may delay proper treatment, and thereby suffer permanent and irreparable crippling."

"There are many cases of arthritis which may be cured completely without any permanent damage, if proper diagnosis and adequate treatment are received promptly," the Commission's suit declared, but "a delay of a few weeks or a month in receiving adequate treatment in such cases may cause permanent and irreparable crippling."

The Commission also argued for the injunction on the grounds of economic fraud, noting that each bottle of 100 tablets sells for $2.00, and stating that "immediate financial loss will be caused to the purchasing public, in that they will each suffer loss to the extent of the amount paid for said preparation." The complaint also pointed out that Imdrin sales for the last quarter of 1948 exceeded $250,000, and said that there was no reason to believe that the volume of sales had been reduced since then.

However, Judge Walter LaBuy was not impressed with the arguments of the Commission and denied the application for the injunction as the result of the vigorous defense offered by Rhodes. Rhodes submitted their advertising copy to deny that any curative claims had been advanced for Imdrin. Affadavits from five outstanding medical authorities were submitted to the court to show the Imdrin was not only harmless, but also "effective in allaying the pain, inflammation and swelling of rheumatism and arthritis." Further medical testimony of one doctor stated "he has never seen a single case of rheumatism or arthritis in which any damage or bodily harm was done to the patient by virtue of a delay in seeking medical care because of his use of salicylates to allay the accompanying pains and aches of rheumatism or arthritis." J. Sanford Rose asserted that more than 300 million tablets had been sold and "that countless users had come forwad with statements testifying to the relief they had enjoyed through use of Imdrin." Correspondence submitted indicated that Rhodes had urged the F.T.C. to bring their allegations to a hearing for two years, and that it was the F.T.C. and not Rhodes upon whom the responsibility for delay in hearings rested. In summing up his opinion, Judge LaBuy said:

"Since the Federal Trade Commission has failed to maintain its burden, the court will decline to issue an injunction. Therefore, the motion for preliminary injunction is denied and the suit is dismissed."

Seek Pharmaceutical Price Index

THE Bureau of Labor is said to be interested in establishing a pharmaceutical price index. Representatives of the Bureau have called on a number of manufacturers suggesting that they select the item in their lines accounting for the bulk of their sales and then monthly reports on price changes of these items for the purpose of indicating trends. Prices on these items would be shown for a period of the past twelve months. Some manufacturers believe that this would not be satisfactory for the reason that the majority of firms have products to which they hold exclusive rights, and their formulae will differ from those of competitive products. Also it is quite a common thing for a third of the current volume of pharmaceutical manufacturers to consist of business in products not in existence five years ago. Some manufacturers are speculating on the purpose of such a survey, particularly in the face of considerable difficulty in arriving at a method of compilation that cause the index to mean anything much.

"Antibiotics and Chemotherapy"

THE new medical monthly, Antibiotics and Chemotherapy, the first issue of which was published last month, is being published in both English and Spanish. The first announcement of this magazine, which we published in October, 1950, gave the name simply as Antibiotics, but evidently it was found necessary to broaden this title. According to the announcement made last month, the following scientists have joined the editorial board of the publication: Dr. Alexander Fleming, Howard W. Florey, (both of penicillin fame), Dr. Houssay of Buenos Aires who won Nobel status for his work with one of the pituitary hormones, Dr. Kendall of the Mayo Clinic, Dr. Selman A. Waksman, Rutgers University, (of streptomycin fame), Dr. Gladys L. Hobby, of Chas Pfizer & Co. Editor-in-chief of the journal is Dr. Henry Welch, Director of the Antibiotics Division of the Food and Drug Administration. Dr. Felix Marti Ibanez is editor of the Spanish edition. The publication is being published by the Washington Institute of Medicine.

Who Gets the Headaches

THE FREQUENCY of headaches among people of various ages, various occupations, and different marital states have been determined by a study of 6,000 persons by interview and questionnaire. Young persons have more headaches than older ones, reports Dr. Henry D. Ogden, of the Louisiana State University School of Medicine, nearly 80 per cent of the twenty-year-olds reporting that they had one or more headaches a week, and only 28.6 per cent of those over 60 have one or more headaches per week.

Sixty-one per cent of all married persons have headaches, while 70 per cent of the unmarried suffer at least occasionally. Of all college graduates, 70.4 per cent reported headaches, but only 38.8 per cent of those with little or no education complained. The rate is about as high among separated and divorced persons as it is among the unmarried.

There is a definite relationship between headaches and the presence of respiratory troubles, including colds, sore throats, and allergies such as hay fever and asthma, reports Dr. Ogden. Most persons use aspirin and other simple remedies to relieve the pain, while some use antihistaminics and nose drops.

By occupation, Dr. Ogden reports the following headache experiences by percentages: Medical students, 85; students, 80.2; executives, 77.3; professional workers, 70.8; housewives, 69.8; clerical workers, 68.2; salesmen, 58.8; manual laborers, 55.1; farmers, 50. Incomplete figures revealed that 66 per cent of all lawyers get headaches, and only 45 per cent of all physicians.

New A. D. M. A. Members

J. T. BAKER Chemical Company and Commercial Solvents Corporation have been elected to membership in the American Drug Manufacturers Association, according to Carson P. Frailey, executive vice-president of the association. This raises the total membership of the association to sixty-eight firms.

More Penicillin Tocthpowders Coming

PREPARATIONS for marketing at least four new toothpowders containing penicillin are now under way, according to Dr. Philip Adams, Cincinnati industrial research director. Research projects preliminary to introducing new penicillin dentifrices are well under way at the University of Louisville, University of Cincinnati, and in the New York City and Cleveland public schools. Dr. Adams says that the favorable report from Tufts College Dental School on the cavity-inhibiting effectiveness of Dentocillin—the only penicillin toothpowder on the market, and manufactured by Andrew Jergens Company—started the investigation of this type of product on the part of other manufacturers. Dentocillin is restricted to sale on the prescription of a dentist. With respect to this restriction, Dr. Adams says:

"Despite the temporary prescription sale restriction on penicillin dentifrices, it is safe to predict that penicillin toothpowder will dominate the dentifrice field in this country as soon as the big manufacturers complete their marketing preparations and go into production."

Price List Standardization

A PROGRAM for voluntary standardization of size of binders and sheets or pages for catalogs for the products of this industry was launched at a meeting of representatives of the drug and pharmaceutical industry at a meeting held last month at the U. S. Department of Commerce, under the auspices of the Commodity Standards Division of the Office of Industry and Commerce. In addition to a recommendation covering standard sizes of catalogs such matters as product description, symbols, abbreviations, listing of items either alphabetically or by product types, headings, packaging, and uniformity in designating quantities and sizes for packages, are to receive consideration with a view to the development of recommended standards. Three subcommittees were appointed as follows:

1. Binders and Catalogs: This subcommittee will study the sizes of binders, sheets or pages, location of punch holes, ring binders vs. post binders; and will draft recommendations for consideration of all concerned.

2 Product Description: This subcommittee will study formats, giving consideration to such matters as product description, listing of items, symbols, abbreviations, packaging, etc., and draft recommendations for standard listings and designations.

3. Catalogs for Government Agencies: This subcommittee, to consist of representatives of industry and interested Government agencies, will consider them matter of simplification and standardization of catalogs for Government use in the procurement of drugs and related products.

A new trade list containing radical innovations has recently been distributed by E. R. Squibb & Sons. This is a new loose leaf book containing a separate, simplified price list section to be issued quarterly and a complete product description list to be issued once a year. According to A. J. Heberger, manager of the Squibb Price and Quotation Department, many features included in the new trade list were suggested coincidentally by Paul de Haen in his paper "The Wholesalers' and Pharmacists' Dilemma" delivered before the APMA last May.

The new trade list contains the following features: 1. Rx symbols, placed beside those products which are sold only on prescription; 2. an alphabetical listing of all products, enabling the user to locate items easily and quickly; 3. the price list section has been simplified and reduced to three columns carrying these basic figures: retail, list, and minimum resale prices. This section of the book will be issued four times each year, and the product description section once a year, or as often as needed. The trade list is contained in a 9" x 6¼", loose leaf, brown plastic binder. Since the chaos in the drug trade list field may well be lessened by this attempt to establish common denominators acceptable to other drug manufacturers, Squibb has endeavored to work out compromises which will not sacrifice the value of company trade-marks, identifications, and other individual company distinctions.

The Growth of Chlorophyll

IF THE amount of advertising planned by the De Pree Company for Nullo is any indication, chlorophyll deodorant preparations, and particularly Nullo, are building up a real business. "We will back Nullo with nearly $1,000,000 in Sunday roto sections, magazines, newspapers, radio, television, and trade publications," said De Pree President Willis A. Diekma in speaking of plans for 1951. Mr. Diekma adds: "We've been in business since 1906—Nullo is easily the most exciting thing that has ever happened to us."

The introduction of chlorophyll into chewing gum is now under way. We are told that it went so well in test areas that lack of production is holding up its introduction nationally. Some of the boys say that it immediately removes liquor from the breath.

A new plant for production of chlorophyll from alfalfa is being rushed to completion near the source of the alfalfa, which is Kansas and Nebraska. The plant which has been producing the chlorophyll thus far is located in Florida, and the alfalfa has to be shipped there from the above mentioned states.

Incidentally, we published a piece about chlorophyll in chewing gum close to seven years ago (April 1944, page 393). This has to do with the development of Vita-Green, developed by Dr. William J. Hale, well-known research chemist of the Dow Chemical Company, and sold in Midland, Michigan, the home of Dr. Hale and Dow, at that time. Dr. Hale had developed the product as the result of an article appearing in a medical journal in 1941 having to do with the healing properties of chlorophyll in pyorrhea and its efficacy in sinusitis. Dr. Hale's product also contained the other plant pigments, the yellow and orange carotinoids. The carotinoids, he said, notably the caronenes, serve as acceptors for molecular oxygen, and the xanthophylls serve as donators of oxygen, all functioning best in the presence of certain enzymes. Vita-Green contained about 0.1 per cent by weight of water soluble chlorophyll and the carotinoids, about 2 per cent by weight of dried brewer's yeast, rich in vitamin B complex which contributes to the stabilization of the carotenes and thus makes more certain the pronounced effect of both chlorophyll and the carotinoids in their stimulation and growth of connective tissue. It was said at that time that the general results obtained through use of this gum had been recorded in many cases, indicating alleviation of sore throat, mouth cankers, trench mouth, bleeding gums and pyorrhea.

Aluminum Use Curtailed

ALUMINUM use in this industry is being sharply curtailed as of April 1. From that date forward, aluminum may not be used in the manufacture of soap and lotion dispensers, soap dishes, vanity cases, containers for cosmetics (except collapsible tubes), containers for bath salts, beauty cream jars, talcum powder shakers, and foil for cosmetics, capsules, and labels. Products in process of manufacture or assembly on or before March 31, and completed not later than May 31, are exempt from this order. Also exempt from the order is use of aluminum to fill a rated order, as well as use of aluminum by persons consuming less than 1,000 pounds during any period of 12 consecutive months.

Decision Against Michigan Board of Pharmacy

IN THE case of Wrigley's Stores, Inc., vs. Michigan Board of Pharmacy, the Circuit Court for the County of Wayne, Michigan found for the plaintiff and decreed that the Michigan Board of Pharmacy be restrained "from prosection of merchants selling the preparations listed in the bill of complaint . . . or falling within the categories mentioned." Products mentioned in the decision are aspirin, rubbing or isopropyl alcohol, milk of magnesia, boric acid, tincture of iodine, peroxide of hydrogen, oil of wintergreen, witch hazel, mineral oil, camphorated oil, mustard powders, American oil, cod liver oil, Epsom salts, citrate of magnesia, Ex-Lax, Feenamint, Vasoline and/or petroleum jellies, alum, sweet oil, liniment, spices, cream of tartar, and Lysol.

A Boost for Ammoniated Dentifrices

THE JOURNAL of the American Dental Association cautiously reports "the possibility that a slight reduction in tooth decay can be obtained by persons using ammoniated dentifrices." This statement is based on a two-year research study under the direction of Dr. Robert E. Kesel, of the University of Illinois College of Dentistry at Chicago, among school children in Peoria, Ill., said to be the most extensive study ever conducted in the field of ammoniated dentifrices. Dr. Kesel, head of the applied materia medica and therapeutics department at Illinois, found "a trend which indicates the usefulness both of good oral hygiene and of ammoniated dentifrices." However, he emphasized that further investigation is desirable to determine whether the trend becomes more significant.

Final results of the study indicated that children who brushed their teeth with an ammoniated tooth powder under supervision had 10.18 per cent of their teeth attacked by decay compared with 11.62 per cent for boys and girls who used a non-ammoniated dentifrice under supervision and 12.80 per cent for children who were not instructed in proper tooth-brushing procedures. This was a reduction of about 20 per cent in the rate of decay for children who brushed their teeth under supervision with an ammoniated dentifrice as compared with the boys and girls instructed to follow their usual mouth hygiene habits, says Dr. Kesel.

From Hadacol to Dolls!

HAVING ROLLED up a sales volume of $20 million in 1950 on Hadacol, Senator Dudley J. LeBlanc has now purchased a controlling interest in Scribbles dolls to which enterprise he is applying his merchandising talents. The interest in Scribbles dolls was bought from Mrs. Elvy Kalep; the plant was moved from New York to Lafayette, Louisiana, on a fleet of Hadacol trucks, and Mrs. Kalep remains president of Scribbles, Inc. Senator LeBlanc describes Mrs. Kalep as a genius at developing ideas in dolls. He says he is so firmly convinced of the great sales potential of Scribbles dolls, that he has already approved purchase of over $300,000 worth of materials and additional equipment for use in doll production.

Search for Tinless Cans

A SCIENTIFIC research project of the American Can Company, which has the ultimate objective of freeing America permanently from dependence on foreign sources of can making materials, was announced last month by W. C. Stolk, executive vice-president of the company. Findings have already reached the state, said Mr. Stolk, that will materially lessen the impact on can manufacturing and customer industries and consumers of the necessity of reducing civilian use of tin by 20 per cent. He reported the following progress made to date:

1. In pilot-line operations cans made of tinless steel and low tin-bearing solder have been made at speeds comparable to that at which tinplate cans are made.

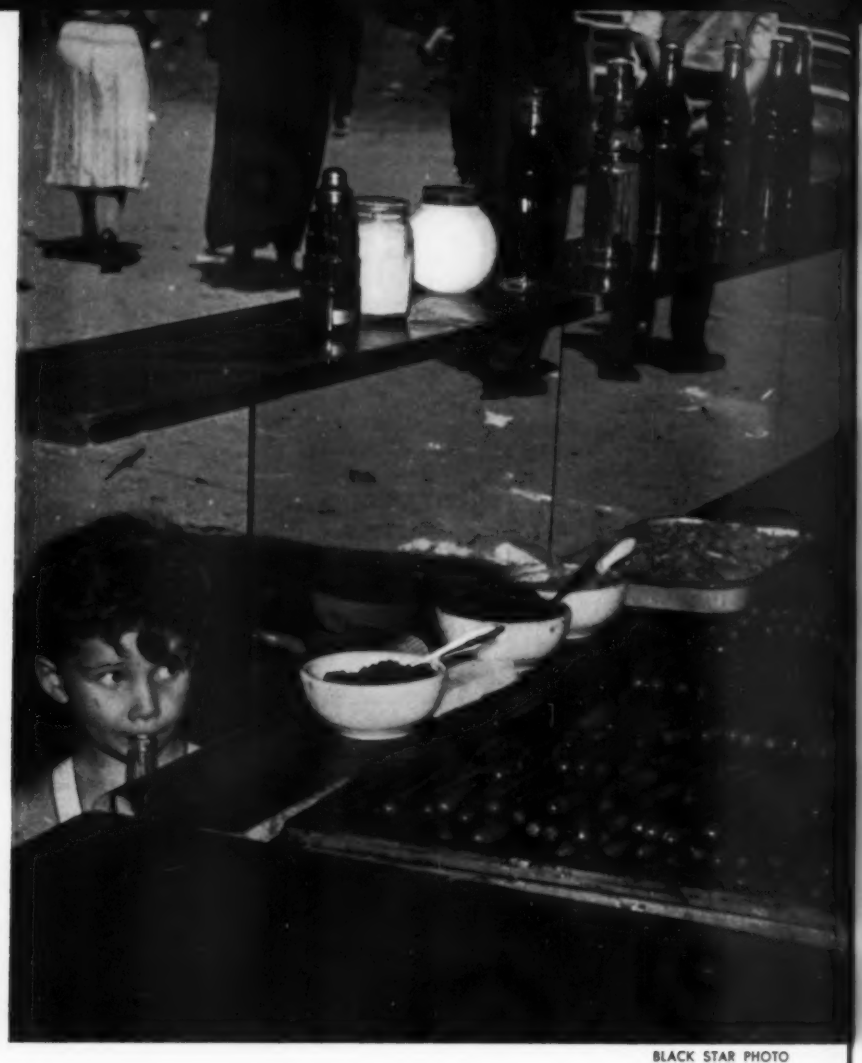
2. Cans have been made with tin-free solders that give every promise of adaptability to universal use.

3. Tin-free cans in which a special plastic cement is used instead of solder for side-seams are currently under test by several packers of oil and anti-freeze.

A fourth objective of the project is to find organic plate coatings made from materials available on this continent which will be equal or superior to those now made from imported ingredients. The company has had a corps of scientists working full time on the project in conjunction with more than 20 leading American companies who are possible suppliers of alternate can-making materials.

In a step to make available to the can industry the results obtained thus far, the company recently conducted a formal showing, before representatives of 90 can manufacturers, of the techniques which the company has developed for making an enameled steel container. The only tin used was 3 per cent in the thin strip of solder which seals the side seam of the can. The company's process makes possible a saving of more than 92 per cent of the tin normally used in the manufacture of several large-volume sizes of cans. In the new process, an organic coating of domestic manufacture substitutes for tin in protecting the steel base and the contents of the cans.

Cans produced at the demonstration were of the size normally used for pet foods. However, this type of container is adaptable to the packing of a variety of dry products, such as ground coffee, and some liquid products including motor oil and anti-freeze. The company pointed out that before World War II, solder used in container manufacture contained approximately 40 per cent tin, but continuing research has made possible the reduction of tin content to an average of less than 8 per cent, and to a low of 3 per cent. World War II research resulted in the development of electrolytic plating of steel sheets which reduced the average amount of tin in a base box of plates (sufficient for about 400 No. 2 cans) from 1.43 pounds to 0.82 pounds. The industry used 41,000 gross tons of tin to make 25 billion cans in 1941, compared to 1950 usage of 31,000 gross tons to make 33 billion cans.



BLACK STAR PHOTO

STATUS OF NU

MEDICINE, with its component sciences, has emerged from the first half of the century—a vast and formidable thing. Of the manifold discoveries and developments represented herein, none exceeds those made in nutrition. The advances made in this field have within them the power to completely alter our present concepts of health, disease and longevity. As far back as 1942, (DRUG AND COSMETIC INDUSTRY, 1:42), the writer stated, "nutritional deficiencies and errors are directly or indirectly, in a major degree, etiologic in the production of nearly all pathology, irrespective of whether such be evidenced as bacterial invasion, toxemia, functional dysbalance, untimely failure of vital organs, or last but not least, many forms of neoplastic disease." Eight years ago, sweeping claims such as these were looked upon with amusement.

Today, eight years later, we note in Borden's review of Nutrition Research, Jan., 1951, the following, "Prominent among nutritional investigations have been studies amplifying the underlying nature of the anemias and of the common degenerative diseases of our times—hypertension, rateriosclerosis, diabetes, liver and kidney damage and carcinoma. These studies—re-emphasize the close dependence of medicine upon nutrition." These words have a familiar ring and serve as stout piling in support of the writer's early sweeping claims.

We are unable within the confines of this discussion to offer any proof relative to the omnipotent and immutable role of nutrition in the development and

Studies based on an examination of 6269 prescriptions reveal quite the contrary. Of this number only 5.67 prescriptions out of every hundred in this survey contained nutritional factors of any sort or quantity. One might hastily interpret these statistics as being evidential that only 5.67 patients per hundred required nutritional therapy or were in a condition of hypovitaminosis. Nothing could be further from the truth. Frank, full-blown deficiency disease such as pellagra, rickets, beri beri and scurvy are not frequently found in this country. However low-grade, chronic, multiple deficiencies are extremely common. We have neither the space nor is it the writer's purpose to bring into view even a fraction of the surveys and studies that have been conducted to determine our over-all nutritional status. We shall present merely enough evidence to determine our over-all nutritional status. We shall present merely enough evidence to induce a dawning realization that while we are the best fed nation on earth, we still show signs of wide-spread sub-clinical malnutrition. This is truly a paradox which many professional people refuse to accept.

The prevalence of malnutrition may be investigated through three different channels; first, food consumption data, both quantitative and qualitative; second, mortality causes; third, mass medical appraisement—i.e., anatomic, functional and bio-chemical studies.

The first method, food consumption data, if pursued, would unveil little known and shocking dietary habits of the American people. For instance, meats, vegetables, milk and other protective foods have been displaced to such an extent that more than two thirds of the calories consumed comes in the form of sugar,

(*Continued on page 396*)

M. FRANKEL

OF NUTRITIONAL THERAPY

By L. Stambovsky

maintenance of normal life. Overwhelming authentication of such can be found, as already stated, in the countless nutritional reports and abstracts easily available to anyone interested. Notwithstanding the enormous lay and professional publicity given the entire science of nutrition, it is yet, today, the Cinderella of the healing arts. The attitude of the average physician ranges from genuine hostility, through indifference to amusement. This phenomenon is difficult to explain. It is but common sense to assume that an agency without any capacity for harm and with an amazing record of beneficence already achieved in its relatively few short years of existence, would be enthusiastically implemented by those in a position to do so, i.e., the medical fraternity.

FREDERIC LEWIS PHOTO

THE PRODUCTION OF RED TAPE*

By Francis Chilson
INDUSTRIAL CONSULTANT

IF THE IMPORTANCE of a product may be judged by the number of firms engaged in its manufacture, and by the number of people who participate personally in the various phases of its production, then the most important product made by the drug industry is none of the antibiotics, none of the sulfa compounds, it is not morphine or insulin or aspirin.

It is red tape.

Red tape is the only product manufactured in varying quantities by all firms in the drug industry—ethical and proprietary alike. It is indeed the only product manufactured by this great industry in which everybody employed in it has a hand in its manufacture, from Joe Stumblebum, the shipping clerk, to Mr. J. Numblesum, the president.

I estimate the annual production of red tape in the drug industry at about a million tons annually, including the weight of the hot air. I am not going to attempt to analyze this bewildering mass of red tape for you. I am merely going to propose that the production men in this industry adapt Laocoon as their symbol. Most of you have seen prints of the statue of Laocoon. You will recall that he is depicted as a gent who is struggling like hell but isn't getting anywhere, because he is all fouled up with

what appear to be snakes. Actually the things that impede his effort are not snakes at all but coils of red tape.

Red tape is to me a synonym for overhead. We are rapidly reaching a point in this industry where the majority of people employed are engaged not in actual production or in actual selling but in office or clerical activities of one kind or another. There are several firms in the trade already in which their clerical staffs exceed the combined total of their sales and production staffs.

I am not taking the position that a modern business can be operated without records. I am aware, also, that mandatory Government reports of one kind or another must be kept in the manner prescribed by the various governmental agencies. I am decrying simply the useless mass of records, reports, procedures, conferences that we all keep or follow.

I am kicking in particular about the mass of useless reports which take so long to write and so much longer to read. I refer to things like weekly progress reports. Do you know what a progress report is? A progress report may be defined as a long-winded explanation in writing giving the reasons why your subordinates haven't accomplished what you told them to do.

There are all manner of interdepartmental reports, memoranda and requisitions which easily could be eliminated through the use of a little common sense. Many firms insist that their men write reports about conventions they have attended. I think this is not only a futile waste of time, but is sadism of the most cruel sort to ask a production man to write a report about a convention he has attended when he doesn't even remember having been there. Having been at many conventions with most of you I am somewhat expert as to how and where the information for convention reports was obtained. I am going to ask this Association officially to prepare two-page summaries of convention activities so that you will be spared the travails of writing creative literature when you are suffering from hangovers.

You will recall that some time ago I wrote an article in a facetious vein describing the need for Bull Chits to record the cost of conferences. Because of the amazing response to that article there is no doubt in my mind that we are doing far more conferring than working. The president of one firm told me that in the various departments of his business a record was kept of the conferences during one week and he found that they had had eighty-three. Still another wrote me that a record kept of the time of the ten highest priced men in his organization showed that at the end of a month more than half their time was devoted to conferences of one sort or another. An official of a large company wrote me on his own letterhead requesting a copy of a Bull Chit and saying that in his organization management procedure was so involved that he could not make the request from the office on a company letterhead because the request would have to be approved by the management board, of which he was a member, and then the request would have to be sent to the home office in New York for final approval!

In my professional work I necessarily have to attend many conferences. On all levels of management they have degenerated into bull sessions, simply because the people who attend them come insufficiently prepared with factual data to support their positions, and they haven't the factual data nor have they fully thought out their requests simply because they haven't had time—they have to attend too damn many other conferences.

Excessive conferring is a sign of lack of good management procedures and also a lack of clearly defined lines of authority. Everybody talks about delegating and exercising authority but few do anything about it. They go into conference to find out just how far they can go, and they can't go very far, especially in connection with the expenditure of company money, because the Finance Committee must approve all expenditures in excess of $50. I know many men who are officials of their respective companies and yet lack the authority to make an expenditure of $50 without getting the approval of a Finance Committee, and the Finance Committee of course will never accept a verbal request for anything, and these have to be written, edited, discussed and filed. Here's where the red tape comes in.

American business men are suckers for systems. We'll grab at anything that sounds imposing without stopping to relate the procedure in scale to individual necessities. We went hog wild after World War I into detailed cost accounting. We went hog wild for the work of the efficiency boys and the time study men. We embraced committee management avidly. And we have reached the point in committee management that some firms have so many committees that they have to have a coordinating committee to find out what the hell the other committees aren't doing. With wild enthusiasm and complete disregard of consequences we went in for aptitude testing, merit rating, job evaluation. Right now we are hell after budgetary control.

I regard *detailed* budgetary control as one of the most evil time wasting practices that the drug trade has ever been confronted with. It is evil because it is a source of bickering and rotten politics; it is time wasting because it takes so much executive time in preparing budget estimates; and in fighting about these estimates after they have been made. From November 15th on, a substantial part of the time of the plant managers of the industry is spent in making guesstimates for the succeeding year. Then they add a good fat clip to each guesstimate because they know the budgetary committee will cut them down anyway, and it is not only plant managers who are thus afflicted, it also is sales managers, research directors and office managers as well. Budge-

(*Continued on page 373*)

*An Address given before the American Pharmaceutical Association at the Hotel Roosevelt, New York City, January 31st, 1951.

THE STOPETTE STORY

By J. B. Montenier

President, Jules Montenier, Inc.

MY FIRST conception of a self-contained spray bottle occurred to me sometime in the year 1927 when I was looking for better ways to apply a deodorant. But Stopette, as it is today on the market, was really born in January, 1939, in the following circumstances:

For two years previous to that date, I had on the market a deodorant in pad form, which was sold through regular cosmetic channels. As it was customary, (unfortunately) in our industry, department stores and sometimes chain drug stores, believing they were overstocked at the end of their calendar year, chose to lighten their inventory by sending back to the manufacturer or distributor so-called overstocked merchandise with the idea of buying again at the onset of the new calendar year.

The month of January was a month of returns!

Ending that winter of 1939, a certain amount of overstocked pads was sent back to the manufacturer.

I have always made a practice to examine thoroughly returned merchandise. In the case of these pads, I was amazed to learn that many of them were almost completely dry. I decided to try some of those dried-up pads on myself, and found the next day that I had developed a slight hyperemia. Under the microscope, I could find no appreciable amount of crystalline salt dispersed in the flannel and I reasoned that it must be the rubbing of the pad itself, which was partially the cause of irritation. I repeated the operation another night and created a new redness under my arms. It was obvious that the flannel pad, without being saturated with liquid to act as a lubricant, was enough to create a discomfort on the skin, already probably tenderized by excess perspiration. In other words, the idea of applying a deodorant from a cotton pad was not the ideal way.

Then what was a better way? Obviously, a method whereby you do not touch or rub the skin, and the only logical one is to spray the liquid deodorant.

I had already perfected a formula using aluminum oxichloride and urea as a buffer, which proved to be quite satisfactory and as mild as a lotion or a cream deodorant. It was necessary only to find a better method of application. I directed my efforts in two directions.

The first one was to take a glass bottle and create a spray through a combination of plastic or rubber-like substances, as all metals are invariably attacked by forms of aluminum chloride.

I also experimented with little vials of cellulose acetate with a cork, stem, and an air hole trying to expel or spray the liquid content by pressure of the fingers on the vial. A coarse spray was created, showing the idea to be quite workable. Unfortunately, a few weeks later, the same vial became so soft in contact with the liquid deodorant that it had lost all resiliency. I tried to find the same vials made out of vinylite, which is more resistant to acids, but they were not available. Consequently, I directed my efforts at that time towards a plastic vaporizer to be inserted into the neck of a glass bottle. For several years of intermittent work, and the creation of many different methods, I was unable to find a practical vaporizer to spray equally well from a full and nearly empty 2-oz. bottle.

In 1944, I started working again on the idea of a self-contained spray bottle, taking a small container of rectangular shape made out of clear polystyrene, and which I was using as an oil can. I introduced some Stopette solution and pressed the sides of the plastic can. It was enough to eject the liquid but not to spray it. I set my mind to try to find out about all plastic materials, including synthetic rubber. I came across a tube of polyethylene, which seemed to possess all the desirable properties for a self-contained bottle vaporizer. As I had difficulty in closing the ends of the tube, either by welding or any other means, I soon realized that this material should be blow-molded. I devised a a method of doing it on an injection machine, and approached a molder acquaintance of mine. He was willing to work with me on a spray mechanism but thought the blow-molding method too involved for him at that time.

Furthering my inquiries in December, 1945, I learned that a firm by the name of Plax Corporation, Hartford, Connecticut, had done some blow-molding of plastics which they were selling for Christmas tree ornaments. I inquired if they were in a position to blow-mold bottles but it was not until April, 1946 that I received an answer and samples. It was exactly what I had been looking for.

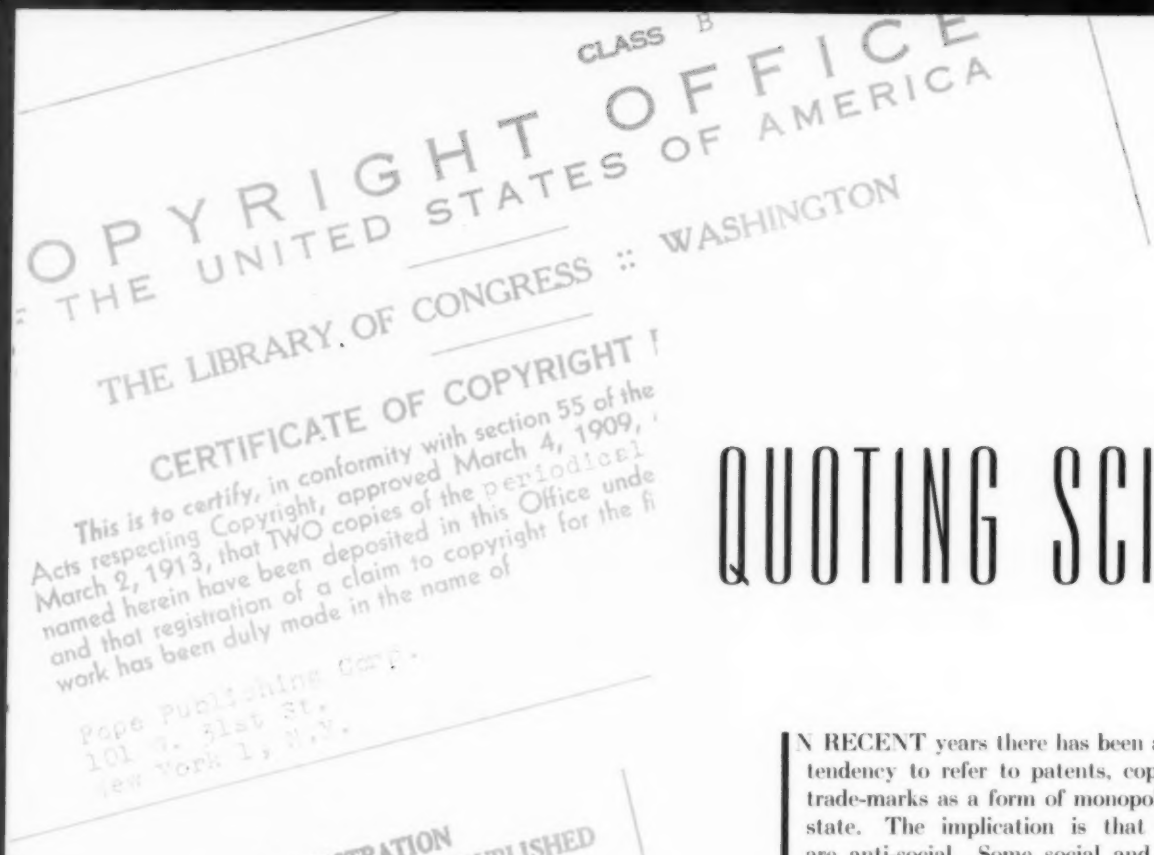
By that time I had developed at least two dozen different types of vaporizers made entirely of lucite and, in June, 1946, I made my first commercial test in California with a form of vaporizer similar to the type I am now using, but hand made. The test period lasted one year, as I had to know about the shelf life of the bottle and if the vaporizer would clog, or show any other defect on constant or intermittent usage. Everything seemed to be perfect.

While Boston round type bottles were being tested, I studied various shapes of bottles which would fit the hand possibly better, or would allow hand pressure to eject a better or easier spray. I evolved a form of bottle in a flattened pear shape as the most suitable for my purpose. Special molds were made, and also a single cavity mold for the spray mechanism.

As my first bottles were quoted at an unusually high figure, I could not see my way clear to selling a 2¼ ounce bottle of Stopette Spray for the price of one dollar, which was the recommendation of three advertising agencies contacted. I believed that the public would not be averse to paying more for something better, and that the price of $1.25 would be acceptable, if the idea was advanced enough and practical enough. The story of Stopette business, as seen today, proved I was correct.

Technically speaking, Stopette Spray Deodorant in

(*Continued on page 394*)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QUOTING SCIENTIFIC PU

IN RECENT years there has been an ever increasing tendency to refer to patents, copyrights and even trade-marks as a form of monopoly granted by the state. The implication is that such monopolies are anti-social. Some social and political planners would abolish these "grants from the government." Others would so limit the rights of the holders of copyrights and patents as to make them ineffective.

The characterization of a copyright as a "monopoly" is pure sophistry. More properly, a copyright should be considered as a property right that is recognized and protected by the law the same as other forms of property. A copyright is simply the recognition by the law of the right of an author to his manuscript. This is a concept with its roots in the early history of our law that has been nurtured and expanded with the development of our jurisprudence.

The rights of an author to his literary creation now find protection in both the common law and the Copyright Act of 1909.[1] Under the common law an author is given an exclusive right to his intellectual productions before they are published. He has the sole right to determine when, where, by whom, and in what form his manuscript is to be published. He has the right to withhold it from publication and to enjoin another from attempting to publish it for his own use.

Statutory Copyright

Once a manuscript is published, however, the author must then comply with the requirements of the statute and look to it for protection. Upon compliance with its terms, the statute gives the author certain exclusive rights including the right:[2]

"(a) To print, reprint, publish, copy and vend the copyrighted work."

A copyright is obtained under the Statute by first publishing the work with notice of copyright affixed to

[*]Delivered before A. P. M. A. Eastern Marketing Section, January 29.

IC PUBLICATIONS

By George M. Chapman
Rogers, Hoge & Hills, New York

each copy. Two complete copies of the first editions of the work must then be promptly filed with the Copyright Office in Washington. Upon the payment of a nominal fee, the Copyright Office will then issue a formal certificate of registration.

The statute further provides that if any person shall infringe a copyright, he shall be liable:

"(a) To an injunction restraining such infringement;

(b) To pay to the copyright proprietor such damages as the copyright proprietor may have suffered due to the infringement, as well as all the profits which the infringer shall have made from such infringement . . .

* * * * * *

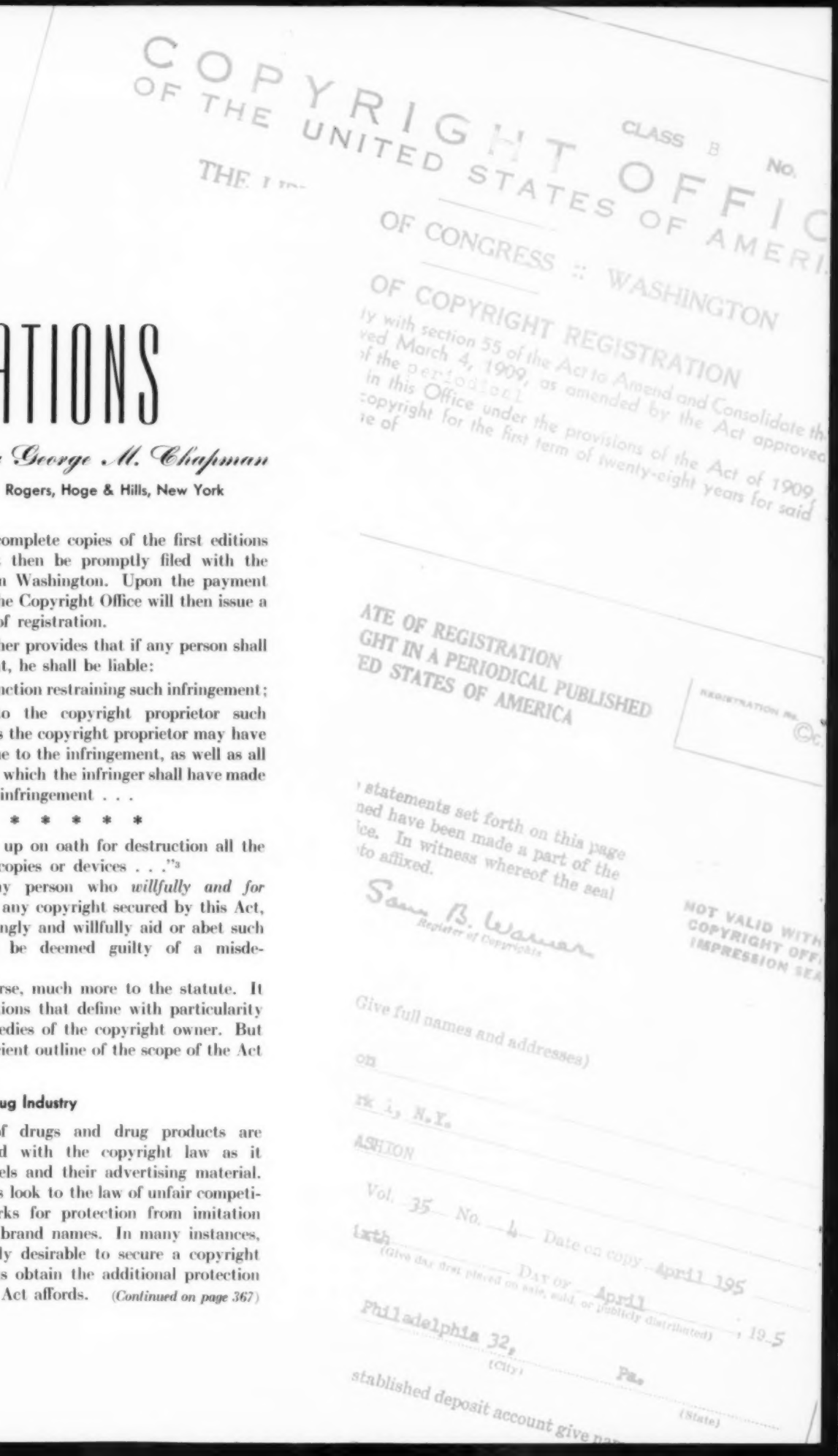
(d) To deliver up on oath for destruction all the infringing copies or devices . . ."[3]

Moreover" . . . any person who *willfully and for profit* shall infringe any copyright secured by this Act, or who shall knowingly and willfully aid or abet such infringement shall be deemed guilty of a misdemeanor . . ."[4]

There, is, of course, much more to the statute. It contains many sections that define with particularity the rights and remedies of the copyright owner. But the above is a sufficient outline of the scope of the Act for these purposes.

Copyrights in the Drug Industry

Manufacturers of drugs and drug products are primarily concerned with the copyright law as it relates to their labels and their advertising material. Most manufacturers look to the law of unfair competition and trade-marks for protection from imitation of their labels and brand names. In many instances, however, it is highly desirable to secure a copyright for a label and thus obtain the additional protection that the Copyright Act affords. *(Continued on page 367)*



BLACK STAR PHOTO]

INDUSTRIAL SKIN PROTECTIVES

By Milton A. Lesser

DESPITE the great deal of work already done, industrial dermatitis still presents a challenging problem. During recent years, however, there has been a growing appreciation of the value of skin protective preparations in meeting this challenge. With the industrial tempo being speeded up to meet the demands of the armed forces and with it the need for keeping every skilled worker in place on the production line, interest in skin protective or barrier creams has also been greatly intensified.

Much has been learned concerning the formulation, use and efficacy of industrial skin protective preparations. Indeed, it is no exaggeration to say that if this knowledge were more widely known and applied, it could become a major factor in solving the problem of industrial dermatitis. Nonetheless, it must not be forgotten that an industrial skin protective is but one weapon in the war against these skin disorders. Thus, cleanliness still remains the primary consideration in preventing industrial dermatitis.[1]

Broadly speaking, the function of a protective or barrier cream is to ensure that the skin is effectively sealed against the entry of irritating substances before the day's work begins.[2] The potential importance of such products is well indicated in the statement[3] that the skin receives the first onslaught of industrial exposures. Describing the skin as the "fragile element in industrial production," Morris[4] points out that of all the organs affected by industrial chemicals none is so exposed as the skin. Moreover, there is quite general agreement[5,6] that there is hardly a single occupation that does not present some hazard to the skin.

By definition,[7] occupational dermatoses are pathological conditions of the skin caused by exposure to substances, forces or conditions encountered in places of employment. Although the dermatoses, are sometimes classed among the "minor" occupational diseases, the number of persons affected by these conditions make them of greater practical, over-all importance than some major diseases.

This importance is reflected in the fact that, in most states, occupational dermatoses are covered by compensation laws, in the fact that medical schools provide both graduate and undergraduate courses in occupational dermatoses, and in the fact that dermatologists themselves recognize occupational dermatoses as a special branch of their special field.

Statistically occupational dermatitis is said[5,8] to account for approximately 65 per cent of all industrial diseases, excluding accidents. According to Schwartz,[9] a leading authority in this field, occupational dermatoses constitute about two-thirds of all occupational diseases reported by compensation boards. Actually, says he, there are many times more instances of the condition than are reported because most of the cases are not of sufficient severity to necessitate absence from work for a week or longer. He estimates that at any given time about one per cent of all workers can be found to have occupational dermatitis. However, as noted by Campbell,[10] the proportion may be as high as 10 to 15 per cent in certain industries.

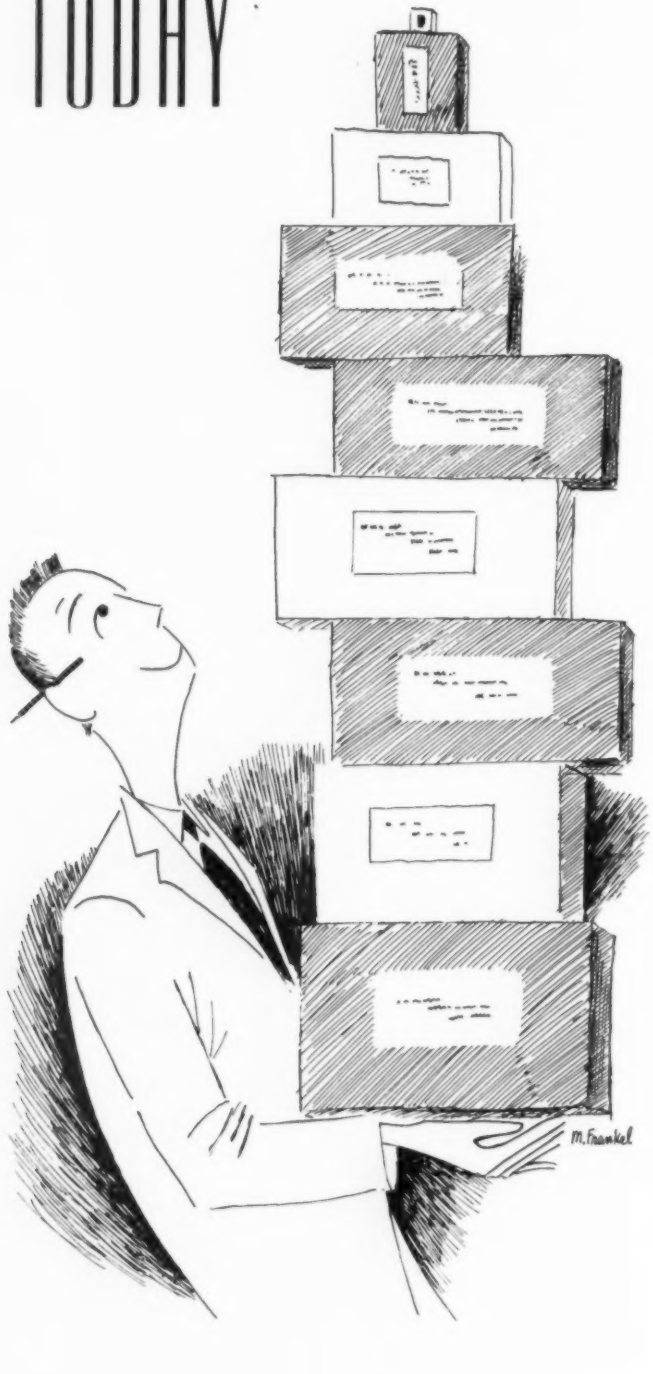
Considering the dollar and cents viewpoint, Downing[11] points out that a worker with an occupational rash is an expensive liability. Apart from his own loss of time and wages, the compensation and medical expenses may amount to several thousand dollars. Even a mild eruption may cost at least two or three hundred dollars. In round figures, this loss is estimated[12] at about one hundred million dollars per year.

Of course some people are more susceptible to industrial dermatitis than others and there are a number of predisposing factors which enter the picture.[13] As listed recently by Schwartz,[9] the chief predisposing causes of occupational dermatitis are: (a) Lack of personal and environmental cleanliness; (b) Excessive perspiration due to hot weather, personal idiosyncrasy, heavy work, and others, (c) Presence of other skin diseases or abnormalities which lower the natural defense mechanism of the skin; and, (d) Allergy, which

(Continued on page 401)

FREDERIC LEWIS PHOTO

PHARMACEUTICALS TODAY



THE situation in which the pharmaceutical manufacfacturing industry finds itself today is one of undreamt of prosperity. Almost without exception, the sales volume of manufacturers are rising at rapid rates, and companies, which were of minor consideration a relatively few years back, are now of marked prominence and rapidly pushing themselves up among the leaders. As is often the case when this state of affairs exists in an industry, it is the smaller companies who, for the most part, are making the greatest advances. This is primarily due to the fact that these companies are managed by small active groups who can act quickly and who are not bound up with the red tape so common with large older companies which are heavily staffed and departmentalized.

It has been said that the present conditions in the market for pharmaceuticals particularly favor the smaller companies for this very reason. Others have said that the larger companies must have grown soft saleswise, as the result of the greatly increased volume of business which they are enjoying, and for this reason, smaller companies, and those who are practically newcomers in the distribution of pharmaceuticals, are able to make these rapid strides. Others point out that due to the really terrific advances which have occurred in drug therapy, the industry was bound to expand not only in the further growth of the older and larger companies, but also through the rapid development of smaller companies and through the creation of new entrants into the field of pharmaceutical manufacture and distribution.

When one realizes that before the recognition of the value of the sulfa drugs—recognition which resulted from the treatment of President Franklin D. Roosevelt's son in Boston in the early thirties—the number of specifics with which the doctor was equipped could just about be counted on the fingers of one hand, he can begin to appreciate the change that has taken place in this industry. Prior to that time, the physicians had comparatively small use for drugs, basing their therapy largely upon diet, rest, sunshine, and a few simple drugs. But from that time forward an entirely new vista unfolded which produced a multitude of drugs for control of infection alone, to say nothing of control of health and disease by nutritional advances sparked by the vitamins and minerals, the use of blood as a raw material for a large number of pharmaceuticals including plasma to counteract shock in accidents and surgery, the antihistaminics to control a large number of conditions previously uncontrollable, to say nothing of the hormone preparations which at long last have brought relief to sufferers from crippling arthritis, and which promise relief from the ravages of rheumatic fever and other previously incurable conditions.

The breadth of these products, and the many different sources from which they are derived, make it apparent that their discovery through research and their production from raw materials of a certain class, or through chemical synthesis of varying types and sometimes very involved, must be restricted to companies who are particularly equipped in the particular type of research, or in access to the proper types of raw materials, or in the knowledge of chemical production or synthesis required in each particular case. No one pharmaceutical manufacturing company is capable of being in a position to discover all these things or to produce all these things. And because the large majority of these new products are expensive to produce, and are therefore priced high, the dollar volume of business in many of them is sufficient to create an adequate sales volume for a company which offers nothing or very little else than one of them. By this we mean that a single company offering one of these new preparations can, on this one item, attain a dollar volume of sales equal to or far in excess of the dollar volume reached by many outstanding pharmaceutical companies on their entire lines of products.

This sort of thing seems to be bringing about a tendency toward greater specialization among pharmaceutical manufacturers. Today we have a manufacturer who markets nothing but antibiotics; another manufacturer of antibiotics makes only penicillin; others market only products based on their manufacturing ability in a certain field. Then there are pharmaceutical manufacturing houses which are prone to specialize in the products which are applicable to a certain class of diseases, or to the diseases common to a certain class of people or to a certain age group.

There are the younger, highly successful companies which continually fight to keep the number of products which they offer down to a relatively small number. These companies aim at introduction and aggressive marketing of about five or seven pharmaceutical specialties, certainly not more than ten. And naturally these companies aim to be the first or only manufacturer in the field with these particular products. This policy has many things to recommend it, especially for companies which are in the ascendency. The fact that they have only a few products, which are for the most part unique, makes them popular with the wholesalers and retailers since they are not among the manufacturers responsible for the great duplication of products which these distributors must carry.

Then there is a marked advantage in the handling of a detail staff. With a few products, a detail man is certain to get the message on practically all of his products over to the physician, and furthermore, he is apt to have information in which the doctor is interested. Also, if the products are aimed at a certain class of diseases, or to a certain age group, the number of doctors which he must detail intensively is much smaller than it would otherwise be. Then there exists the fact that a smaller detail staff is adequate for the reason that it is not necessary to keep calling on the same doctors continuously as is the case with a manufacturer with a very broad line of products. This not only benefits the manufacturer from a financial and supervisory angle, but it also makes him popular with the doctor who is generally of the opinion that detail men are prone to demand too much of his time. The average doctor is a busy man today, and he demands that information on products of manufacturers be new information and be given to him as quickly as possible.

It is not meant by these statements that the larger houses with relatively broad lines will not continue to maintain their volume or to grow larger as the result of the important positions being assumed in the industry by these rapidly rising manufacturers. The larger houses are generally particularly alert to the trends in medicine, but their interests are too diversified to be in the van with regard to every new development. However, in instances where these new products are not patentable, or can be obtained or made by other processes or in different forms, the larger houses will add them to their lists and will become relatively important factors in them for the reason that their labels are well known and highly respected by a large majority of the doctors of the country. We have all seen instances of a company announcing the results of scientific evidence regarding a new pharmaceutical preparation only to have the larger companies immediately jump into the field and accomplish nationwide distribution and quite general acceptance before the discovery of the product had gotten into full-scale production and distribution.

The one fact that dominates every activity in the pharmaceutical manufacturing industry today is the extremely rapid turnover in the products used for the treatment of the many illnesses which befall mankind. As one executive has described it: "We live in the shadow of obsolescence." As we all know, over half the dollar volume in pharmaceuticals today is in products which were not in existence ten years ago. It has also been said that ninety per cent of the money spent for hospital purchases of drugs for therapeutic purposes—that is, excluding anesthetics and similar things—is spent for three classes of drug products, namely, antibiotics, vitamins, and hormones. Thus it will be apparent to anyone in the industry that he must constantly be on the alert for new products, and get into them as rapidly as possible.

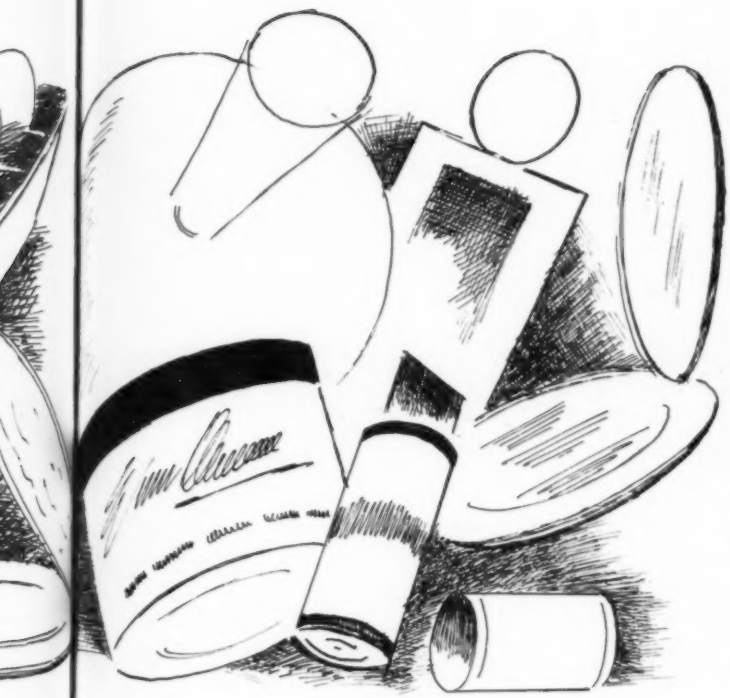
The practice of medicine has changed rapidly within recent years, but the rate of change is being rapidly accelerated and there appears to be still more rapid change promised for the not too distant future. The steroid hormone field and the stimulation and control of the pituitary gland alone are said to be possible of developing an entirely new concept of medicine. The antibiotics, the antihistaminics, the vitamins, the hormones, and the radioactive isotopes, which promise so much today, may be only the beginning. Is it any wonder that the industry is growing and changing, and that a manufacturer must be ever alert to new developments and willing to move quickly in accordance with them and grow with the industry?

NEWER EMULSIFIERS IN

THE EMULSIFICATION field is presently in the midst of its greatest expansion. There are a number of factors which have caused this to happen, but the principal one lies in the fact that our chemical industry itself is expanding and methods of synthesis of the new compounds now on the market are constantly being changed so that the final product may be less costly to prepare. The ideal methods of organic synthesis—in those reactions in which two immiscible reagents are to be reacted with each other—calls for a solvent in which they are both soluble, so that molecular contact may be achieved. Water would be the ideal solvent to use—when possible because it is the cheapest available and the easiest to dispose of after the reaction is complete. Water, however, may not be an ideal solvent for many materials, but turning to the use of other solvents always introduces a cost factor since full recovery of the solvent for re-use is rarely ever achieved. When one considers the enormous quantities of polymerized rubber substitutes that are being manufactured, it can readily be seen that a reaction in a solvent would greatly limit the quantities ultimately produced.

In the manufacture of synthetic rubber emulsion polymerization is generally resorted to rather than polymerization in a solvent, primarily because of the cheapness of the method. In this case the reagents though not reduced to molecular size as they would be in a true solution, are reduced to a small enough colloidal size to permit a reaction to take place. By accomplishing the synthesis in this fashion, the advantages of a solution are retained and the disadvantages, such as cost—and possible impurities present in commercial solvents, largely eliminated.

The applications of emulsifications to cosmetic preparations are not the same as to industrial synthesis, but the primary objective—elimination of a solvent—is obviated. With the exception of nail lacquers, the only volatile solvent in common use in cosmetics is alcohol. Certainly, this material, is possessed of properties which enhance many cosmetic preparations. Fairly large quantities are used as a solvent for essential oils in perfumes and toilet waters, hair dressings and as preservation agents as well as freezing point depressants in hand lotions and shampoos. However, one of the lessons of the last war was the importance of alcohol



RS IN COSMETICS

By Harry Hilfer

as a war time raw material. We are now faced with a similar set of circumstances and manufacturers are again apprehensive about the future of those preparations which consume good sized quantities of alcohol. The tendency has therefore been to turn to water and the emulsion of the incompatible materials within it as a substitute. In the hair dressing field there are several nationally known preparations on the market which were developed as a result of the alcohol shortage and I feel that this trend will continue.

The cosmetic manufacturer has several factors to consider in his choice of emulsifiers. His preparations must be stable over a period of a year and they must be proven non-irritants and non-toxic. These demands therefore narrow the field. The old tried and true emulsifiers were the soaps and these are still in greatest use. Stearic acid used as a potassium, tri-ethanolamine, ammonium and sodium soap is about the most commonly used emulsifier we have. Beeswax and borax is the next system in most common use. Here, the soap formed is from cerotic acid and the sodium ion in borax. Other substances were added to further strengthen the emulsion, particularly in hand lotions. These substances were primarily gums, particularly quince seed mucilage. Other emulsifiers began to be introduced perhaps some twenty-five years ago. It is interesting to notice that soaps possess a water-soluble and an oil-soluble group—the metal being the hydrophile and the fatty acid the lipophile. Future developments of synthetic emulsifiers have followed this pattern—in that the lipophile and hydrophile continued to be present at opposite ends of the molecule.

One of the most interesting of these was glycerol monostearate with the hydroxy groups in glycerol representing the hydrophile and stearic acid the lipophile. Its advent more than any other single factor made possible the formulation of the modern antiperspirant cream. This material is a non-ionic agent and therefore not subject to decomposition as are soaps by the introduction of an insolubilizing ion such as aluminum or zinc. A large number of similar compounds began to appear shortly thereafter, including ethylene glycol mono esters, polyglycol esters and propylene glycol esters. The choice of the proper agency began to be capable of providing not only better emulsion stability but wider variations in the properties of the finished products themselves. Soon after the Atlas Powder Company began commercial manufacture of esters of sorbitol and mannitol in many of the different possible compounds possible—ranging from a compound containing three fatty acid components to only one. In addition, the length of the hydrophilic portion of the molecule was increased by reaching one of the hydroxy groups with polymerized ethylene oxide of various lengths. By this method the characteristics of the emulsifier could range from compounds which were oil-in-water emulsion producers to water-in-oil emulsifiers. All these agencies were non-ionic emulsifiers.

About this same time the sulfated detergents became available commercially and therefore presented a means of forming soaps in which many compounds which would have destroyed soap could be used. Here again we have a system in which the lipophile as a fatty alcohol or fatty acid monoglyceride is at one end of the molecule while the $OSO_3^{\ddagger}$ $Me^{\ddagger}$ or hydrophile is at the other. These compounds are also capable of being used in conjunction with soaps to introduce new properties or to further enhance existing properties dependent upon the lowering of surface tension. The greatest single difference in the behavior of these materials aside from their intrinsic variations on the stability of systems into which they are incorporated are their effects on viscosity. The viscosity of a finished emulsion is rather difficult to foresee, but my own observations indicate that the smaller the particle size of the dispersed phase the lower would be the viscosity of the emulsion—within certain limits. For example, in hand lotions where the dispersed phase is small, treatment with a colloid mill causes an immediate

(Continued on page 393)

TECHNICAL SERVICE IN BU

MANY years ago a great American author, James Russell Lowell, said, "It is not the finding of the thing, but making something out of the thing after it is found that is of consequence." In the development of new products, the Technical Service Department of many bulk medicinal chemical manufacturers is responsible for making something of consequence out of the findings of their research departments.

Without attempting to define the functions of a Technical Service Department or the innumerable duties with which it is concerned, it may be said that the Technical Service Department at Pfizer carries out the principal functions that have been suggested by many writers as falling within the scope of such a department. Our Technical Service Department carries out the application research work on all our bulk chemicals. In this work we attempt to find new uses for old products and uses for new products as well as to investigate methods of application and formulation. A continuing study of new products, product evaluation and product development is a major function of this group.

Our third principal function is concerned with technical assistance to our sales department. In this connection, there is involved the supply of complete and sound technical information concerning the properties and uses of all our products, the preparation of technical service bulletins and technical correspondence in reply to the inquiries of our sales representatives and customers. In addition, we handle customer problems and make available on various occasions assay methods and services with respect to products containing our chemicals. Field trips with our sales representatives are also an important part of our sales service work.

The Technical Service Department at Pfizer is divided into three groups which operate under the Director of Technical Service within the sales department. One group is concerned wholly with industrial chemicals. The second with products for the food, feed and beverage industry and the third group with bulk medicinal chemicals. Here we will be concerned only with the work of this latter group, although all three groups operate along similar lines.

The members of all of these groups spend a portion of their time in the field discussing new products and applications with technical members of the pharmaceutical industry and calling upon customers with our local sales representatives on matters of technical service. The remainder of the time they are at the technical service laboratory directing the application research work which is being carried out by their division while they are in the field. We find this procedure is most

*Presented before Research and Development Section, American Drug Manufacturers Association.

IN BULK PHARMACEUTICALS*

By George B. Stone

COORDINATOR, NEW PRODUCT DEVELOPMENT, CHAS. PFIZER & CO., BROOKLYN, N. Y.

rewarding because it allows the men directing the work in the laboratory to be fully cognizant of current problems and trends in the field and, conversely, to enable him to supply to the customer the latest available information based upon our application research work. Since applied research on any one product is continually modified by changes taking place in the pharmaceutical industry, the man directing the application research work is always fully aware of the latest trends and uses.

When our research department discovers some new product of potential interest to the pharmaceutical industry, which upon preliminary evaluation appears to have merit for sales; after it has been decided to go forward with the product, the work which then logically falls to the Technical Service Department can be divided into three phases:

1. The phase prior to introduction of the product
2. Introduction and early sales development
3. Final stage to full growth

In the first phase prior to the market introduction of the product, application research work by the Technical Service Department is of primary importance. Our normal procedure, when we are notified that a new chemical is in the offing, is to make an extensive "paper study" of the product. This work is carried out by the member of the Technical Service Department asisgned to the project together with the members of his group in conjunction with our Technical Information group and Market Research Department. From the Chemical and Biochemical Research Departments we obtain all of the physical, chemical and bacteriological characteristics of the compound and from the Pharmacological and Clinical Research groups we gather all of the pharmacological and clinical data that are known at this time. Our paper study of the assignment is carried out from the "use" point of view—what the product will be used for and how it will be applied. Often times at this stage it is rather difficult to obtain this information as factual evidence because there is usually only a limited amount of chemical information and clinical data available and one is unable to decide and determine in advance all of the possible uses for the compound.

After we have determined a number of applications which seem most promising, we then evaluate the product regarding possible formulation; to what types of pharmaceutical dosage forms can this medicinal possibly be added, what types of processing will such a product undergo in preparation to the final form? We

(Continued on page 388)

NEW PERFECTION = DROPPING PARTS

QUALITY UNIFORMITY CLEANLINESS SERVICE

#1

Non-rolling, extra-depth, Bakelite Cap; thick flange rubber bulb; Saftee ballglass.

#3

Regular plastic cap; thin flange rubber bulb; semi-blunt glass.

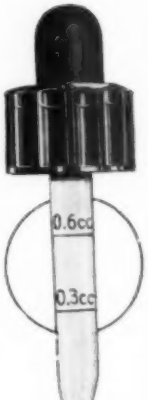
#4

Metal cap; oil-resisting Amekine synthetic rubber bulb; blunt glass.

By the Originators and World's Largest Manufacturers of Screw-Cap Dropping Parts

Since 1931, when the screw-cap dropping part was originated by Pennsylvania Glass Products, the world-wide acceptance of New Perfection has been increasing. The fact that the New Perfection Dropping Part is the most practical and sanitary dispensing unit for liquid preparations accounts for its popularity and the steady growth of our operations is due to the efficiency with which our products are manufactured and distributed.

Our exacting standards for quality, uniformity and cleanliness guarantee that each shipment will meet your most rigid specifications. Our policy is to produce and sell the best in dropping parts—and thus merit your continued patronage in the future as we have in the past.



#2

Non-rolling, extra-depth, Bakelite cap; thick flange rubber bulb; special bent glass (CALIBRATED in color).

New Modernistic bottle. Designed to lie flat for convenient labeling. Oval front provides ample label space.

New Perfection Dropping Parts, either plain or CALIBRATED IN COLOR, can be supplied to fit your bottle or with our new Modernistic style bottles. Our bottles are available in Amber, Blue, Green or Clear glass in 2 cc, ⅛, ¼, ½, 1 and 2 oz. capacities. Special oil-resisting AMEKINE synthetic rubber bulbs can be supplied for use with oil products, or natural rubber bulbs for general usage.

Write for Samples and Quotations

PENNSYLVANIA GLASS PRODUCTS CO. INC.

"Glass Goods of the Better Kind"

430 N. CRAIG ST. • PITTSBURGH (13), PA., U.S.A.

PACKAGING AND SELLING

ADVERTISING'S FUTURE

Will advertising expenditures be affected by the retail trend toward self-service and automatic selling? In the opinion of Frederic Schneller, General Merchandising Manager of Lever Brothers Company, expressed in a recent speech, advertising will be affected.

As it stands now, there has been a substantial decrease in the money spent for consumer advertising if we look at these expenditures in terms of market growth or the increase in consumer income. On this basis, expenditures during the last 10 years for advertising would average little more than half of the expenditures during the decade that began with 1930. As for the future effect on advertising of the growing force of self-service merchandising, Mr. Schneller makes a sharp distinction between the two terms which represent a whole generation of advertising techniques and procedures which he believes are deeply buried never to be resurrected.

These terms are "consumer demand" and "consumer acceptance."

As an example of an entirely new conception of marketing which takes clear cognizance of the vital factors of in-store merchandising and dilutes to some extent the myth which attributes all selling influence to advertising, Mr. Schneller gives the following examples.

"Alexander Smith, Mohawk and other well-known rug makers spending $250,000 or more a year for advertising, cannot possibly attribute more than five percent of their total volume to consumer demand."

"The three or four *best-known* names in the appliance field wouldn't dare claim more than 30 per cent."

"In the soap business it probably reaches as high a level as in any other category. Here it might go as high as 50 per cent."

Someday someone is going to compile into a single article the numerous tests which different retail organizations have been making in the last few years on the influence of display and in-store position on the sale of merchandise and on the sale of similar competitive and equally well-known brands. Such a compilation, we are certain, would fully authenticate Mr. Schneller's examples and provide very startling evidence of the d o m i n a n c e of in-store merchandising in controlling consumer purchasing. Such a survey would do much to relegate all advertising to the place where it belongs, and that is as a single essential instrument for sales which can only operate with effect when it is included as only one element in a complete merchandising plan.

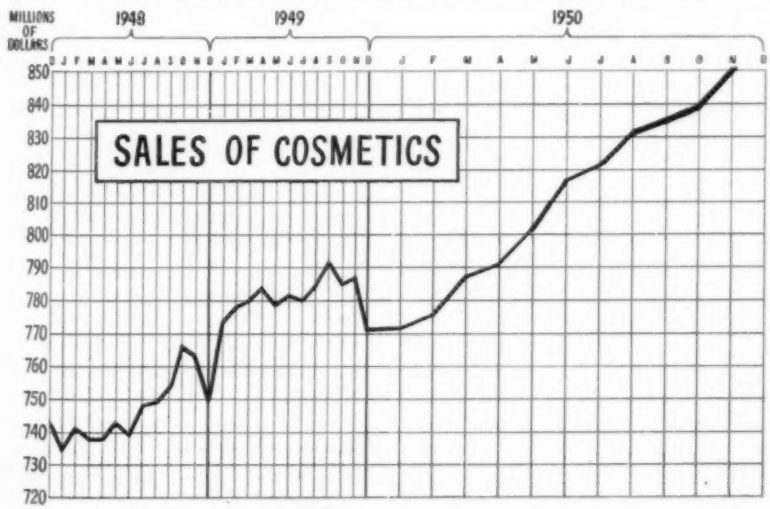
These retail experiments, some of which we have quoted in past issues, force anyone into the inescapable conclusion that no American manufacturer can ever spend enough money in advertising to overcome an unfavorable position in a retail store and that without a favorable position the brand of any manufacturer is at the mercy of a competitor who may be spending in advertising considerably less money.

While a key favorable position, for instance, eye level display on a supermarket rack in a good traffic aisle, can only be attained by a merchandising plan which includes substantial effective advertising, on the other hand, the substantial effect of advertising does not in itself guarantee this position where the merchandising policy and pressure are not geared up to an equal strength in effectiveness and scope.

Self-service selling will unquestionably exert a very powerful influence on selling, not only in educating the retailer to a new knowledge of his dominant power in selling and his completely strategic position in the flow of merchandise to the public, but it will force many retailers to acquire a much fuller understanding of the arithmetic of retailing than they have now. Inevitably as this method of selling becomes dominant some such system as the unit method of control for in-store merchandise as practiced now by a limited number of the leading chain organizations will have to become generally understood and accepted.

It is probably true also that in stores which continue to rely upon personal selling and which specialize to a major extent in the higher priced products

Retail sales of cosmetics for the twelve months ended with November 1950 totaled $859,486,000. This compares with $839,669,000 for the twelve months ended with October 1950 and with $786,621,000 for the twelve months ended with November 1949.



and in products where shopping comparison is involved, that even here the methods of stock control, which will become the necessary formula of the self-service retailer, will begin to make some headway.

This retail revolution, which is succeeding the industrial revolution, and which will undoubtedly bring vast changes in methods of distribution and in marketing must inevitably leave its mark upon the nation's advertising. That part of advertising which has had certain hypnotic qualities in it, in that so many individuals, and among them the heads of many of our greatest advertising agencies and great institutions, had almost a religious belief that if they could out-spend the other fellow in consumer advertising that nothing could stand in their way to reach complete market dominance.

This myth may well be replaced in the excitement of a new era by a new myth which will bring the theory that anyone who can sell, bribe or force the position which secures for them the key dominant display space in the kind of stores where their merchandise is stocked, then that is a magic formula which will give them trade dominance.

It may well be that we are headed for an era where the primary, and in some cases the sole function of consumer advertising expenditures, is for leverage which can be applied to the retailer to secure the prize position within the store.

Set-Up Box Conference

The Federal Trade Commission sponsored a trade practice conference for the set-up paper box industry in New York on March 1. This meeting was held at the Hotel Biltmore beginning at 10 A. M.

Products of the industry include boxes prefabricated from cardboard and sold in rigid or set-up form as distinguished from folding or collapsible type paper board containers.

Among the subjects proposed for coverage in the rules were misrepresentation of products as conforming to standards; misrepresentation as to character of business; misbranding; substitution of products; false price quotations; deceptive use of trade names; false invoicing; "short count" deliveries; selling below cost; combination or coercion of fixed prices; suppressed competition or restrained trade; price and other discrimination; and brokerage commissions.

Department Store Vending

Although department stores seem pretty generally committed to personal selling rather than to self-service in accordance with recent statements by a number of department store heads and despite the contention of Professor McNair, the retail expert of the Harvard Graduate School of Business Administration, that these stores are destined for self-service, there does seem to be a growing inclination on the part of these stores to at least participate in the growing flood of popularity for self-service and in the obvious economy of this system.

We have already seen that Filene's original experiment with an automatic retail branch in the Greyhound Bus Terminal in Boston has been expanded to a second branch, and we have seen the statement of the head of this powerful retail chain, in which Filene's is included, that if this experiment succeeds it will be expanded rapidly to other stores. In fact there has been a persistent rumor in vending machine circles that this chain has already ordered for future delivery a very considerable number of vending machines.

Quite a number of department stores have made very effective use of vending machines for employee services, dispensing such things as soft drinks, candy, cigarettes and other day-to-day utility products. The use of these vending machines for employee services has been proving very satisfactory and has been expanding.

In their new Parkchester Store Macy has already established quite a substantial success with the use of the Drug-O-Mat, a self-service fixture that feeds merchandize automatically by gravity. This type of vending machine has been in operation since October, and it is said that there has been a substantial increase in sales of the products displayed. The merchandise manager of this branch has said that this machine made possible the display of three times as many items as would normally be shown in this same space.

The Drug-O-Mat in this store features three divisions of goods, that is toiletries, hair preparations and drugs. Macy's own products are displayed side-by-side with national brands.

Up-to-date the compromise which department stores have made between personal selling, and self-service display for low and medium priced utilities which require very little retail selling, seems to lean more towards some type of vending machine rather than to the normal display method of the grocery super-market.

It may well be that when a store of this type decides to make this compromise, and while still committed to the type of retail operation which requires personal selling to put up a fight for the low priced, heavy turnover utility items, that the vending machine may prove the happy compromise.

No Easy Sledding

One of the interesting results of the legal bout of R. H. Macy Company and General Electric over fair trade, in which Macy lost the first round, is the implication in the permanent injunction restricting Macy from selling below fair trade.

This injunction applies only so long as General Electric satisfies the Court that it is vigorously policing all sections of the trade to make sure that no substantial price cutting is being done.

Returned Goods

The New York University School of Retailing has just completed a survey of returned goods and has come up with five reasons which, store executives believe, account for the vast majority of returned merchandise.

1. The tendency toward more promotions of merchandise. Up to the beginning of the Korean War, according to store executives, there was a very large increase of special sales, special deals and special promotions, some of which contained poor quality merchandise, did not appear a bargain to the consumer and were over-rated by the manufacturer or the store buyer.

2. Adequate records are not being kept. Many top executives admit that there is no effective system for keeping certain store executives, such as the comptroller, merchandise manager, etc., fully and intimately informed regarding merchandise in their departments. This frequently leads to a return of merchandise which should not be sent back. It must be admitted that the lack of detailed departmental knowledge of inventories sometimes permits a department head to slip a hot one over on top executives. The cosmetic business is well acquainted with certain department store buyers who at certain seasons of the year would show a very beautiful inventory, by the wholesale return of merchandise, a large part of which he immediately reorders after his inventory has been checked.

3. The recent sales emphasis on large appliances. Many retailers have been

Is there . . . . . an idea for you in the ONE that caught your eye?

Think of bottles—your bottles—capped in attractive color! Pharmacists, wholesalers, retailers, and manufacturers find the use of distinctive color invaluable in identifying and impressing their products on the public mind. Wholesalers find drugs and cosmetics in bottles capped with color easier to sell—because retailers know the eye appeal of color as a merchandising force of significant value.

Take a fresh look at closures of Plaskon Molded Color! Leaders in the drug, cosmetic and pharmaceutical fields are featuring them in a wide range of colors and a broad selection of styles.

These modern closures attract the eye with *practical* colors—colors that are solid, permanent, chip-proof. And the plastic is resistant to solvents, greases, oils, dilute acids and alkalies—with a non-porous finish that is smooth and friendly to the touch. If you wish, you can even have an exclusive shape in your caps—thanks to the moldability of Plaskon Molded Color. Contact your supplier now for all of the facts!

Your package can help sell your product . . . cap it with

PLASKON DIVISION • LIBBEY • OWENS • FORD GLASS COMPANY
2110 Sylvan Avenue • Toledo 6, Ohio
In Canada: Canadian Industries, Ltd., Montreal, P. Q.
Branch Offices: Boston, Chicago, New York, Los Angeles, Rochester
Manufacturers of Molding Compounds, Resin Glues, Coating Resins

PLASKON®
MOLDED COLOR

With the right accessories stock bottle #A-4445 becomes a highly individual container—at low cost

MAKE-UP makes the difference!

Imagination and ingenuity can make a face or a container *stand out*

A DIFFERENT CLOSURE, an unusual use of color, a striking label—presto! A stock-mold Duraglas bottle becomes a package of distinction that will stand out anywhere.

Unchanged by the beauty treatment, of course, are the strength, operating economies and low original cost of Duraglas stock-mold containers.

And there is no limit to Duraglas container individuality. So for all your packaging needs, from bottles to closures and shipping cartons, with package distinction built-in, *look to Owens-Illinois complete packaging service.*

Duraglas TRADE MARK REG. U.S. PAT. OFF. bottles are protectors of quality

OWENS-ILLINOIS GLASS COMPANY • TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

stocking merchandise which they were not equipped to sell intelligently or service properly. This inability to meet ordinary technical difficulties within the store and to satisfy the customer with normal service following the sale has made it quite difficult for some manufacturers who were initially very happy to open up a retailer, who should never have had their merchandise.

4. Emphasis on mail and telephone orders.

5. Too liberal return policy. Here the reports suggest that this problem probably can't be solved as long as each store plays a lone wolf role.

Growing, Growing, Growing

Super-market construction in 1950 is estimated at $230,000,000, an increase in the number of super-markets of 13 per cent.

The largest construction was concentrated in Texas, New Mexico and Southern California.

Avoiding Anti-Trust

The Anti-Trust Division of the Department of Justice has given out a few rules which are alleged to help the bewildered business man keep out of the way of anti-trust mystic mazes.

The following suggestions were offered at a recent meeting of the New York State Bar Association.

1. Avoid being paternalistic about your product after it leaves your hands. This covers a lot of ground and still leaves us a little bewildered. The suggestion seems to be that the minute a business man sells his goods he is no longer the fond papa with all papa's prides and duties, but has acquired a bunch of in-laws.

2. Any exclusive distributionship deals requring future purchases or illegal tie-ins, whether written or not, are strictly taboo.

3. Ask yourself; Does any wholesaler or retailer have a practical, not just a legal, free choice to take back my merchandise? You are wide open to Federal action if you can't say yes to that question.

4. Don't let the fact that a practice which is common in our industry determine whether it is legal.

5. Don't let your belief that your product is superior get you tangled up with the Federal lawyers.

These folks are not impressed, for instance, with a business man's plea that his business form is the only one which can fit into his record-keeping machine.

Washington lawyers are building up a nice vocabulary describing our anti-trust laws. At this meeting one of them called these laws and their interpretation a "quagmire of confusion." A few years ago at a similar meeting at the New York Bar Association, a Washington lawyer called the Robinson-Patman Act "a legal abortion."

New Feature in Counter Display

Robert Gair Co., Inc. has made special cartons and display containers for Roux Distributing Co. Inc. for their new line of hair color shampoo. The outstanding feature of these cartons is the advertising panel of the counter display which carries twelve realistic reproductions of samples of human hair in those colors secured through the use of the hair tint. This enables a customer to match a tint to her own hair with accuracy.

The individual bottles are packed

with twelve different tints in each display carton, with cutouts in the bottle cartons permitting indentification of the color shade printed on the label.

This new display carton, unlike former types in which cards were used which carried actual samples of hair, can be distributed to every drug store. The former process which used real hair limited the distribution greatly because of the expensive cost of production.

Sitting Pretty

The most effective place for producing sales in a self-service display is said to be between 30 inches to 60 inches from the floor.

Eye level is the spot on which all big guns are trained.

Monopoly by Advertising

The Twentieth Century Fund's new survey on "Monopoly and Free Enterprise" takes a somewhat unfavorable look on dominant advertising.

According to this report, "Without advertising, consumer preference for Camels, Lucky Strike and Chesterfields would probably end. Even a limitation of advertising expenditures would to some extent dispel that large part of their good will value resting on the costly reiteration of unverified claims of superior quality."

"Such a limitation would lower the biggest barrier to potential competition in the industry and open the cigarette market to new enterprises."

However, the authors admit that the economic validity of direct limitation on advertising is debatable. It would appear to us that there is also room for debate in attributing solely to advertising the dominant position of these particular brands. We seem to be learning more and more about the actual limitations of advertising and about the existence of other powerful forces in marketing, such as in-store display, position assigned to the goods and other variables within the power and discretion of the retailer.

Along this line, note the recent speech of Frederic Schneller, General Merchandising Manager of Lever Brothers Company.

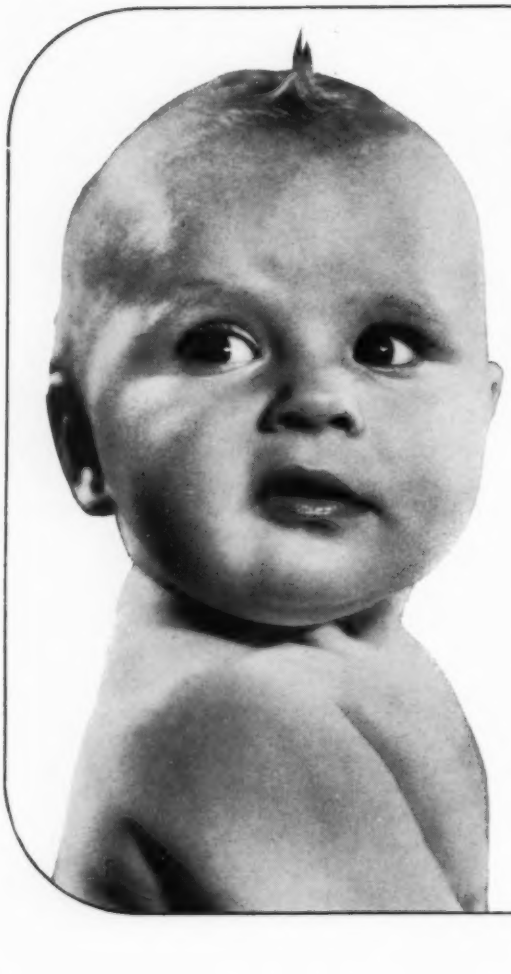
We wonder what the Twentieth Century Fund would select as the reason for the dominant position of Hershey in the chocolate candy bar field. It certainly wouldn't be advertising and as far as we know, this company doesn't give the poor publishers even a nickel for a cup of coffee.

Per Square Foot

"The per square foot" yardstick is becoming of increasing interest in grocery super-markets and a number of performance tests have recently been conducted around the country.

These performance tests have usually been applied to cigarettes, because the increasing sales volume of cigarettes in grocery super-markets is rapidly making them the star performer in a test of this sort. In a number of these tests in the midwest cigarettes have been delivering from $10 to $30 profit per square foot.

Manufacturers who are crowding into the grocery super-market with such enthusiasm, and who are convinced that open display and self-service is



Don't be SILLY...

My Mommie **always** uses Mennen Baby Cream*

Yes, this youngster's mother, like so many others, knows that Mennen products give her the extra in baby care.

**Mennen Baby Cream is a product of The Mennen Company, Newark, New Jersey, and Toronto, Ontario.*

The closures used on these products give packers something extra in sealing satisfaction. They're Crown Screw Caps with special features like the famous Deep Hook Thread and liners that are scientifically correct for their particular purpose.

To be sure of trouble-free application . . . dependable sealing . . . customer satisfaction . . . do as so many packers are doing these days . . . bring your sealing problems to "sealing headquarters," come to Crown. Crown Cork & Seal Co., Baltimore 3, Maryland. *World's Largest Makers of Metal Closures.*

CROWN CLOSURES

Approved by Millions of Housewives

Visit Crown in Booths 370-372 at the National Packaging Exposition — Convention Hall in Atlantic City — April 17-20.

the key to future retailing, will do well to consider the growing awareness of this type of retailer to some sort of performance yardstick, such as this, which will be used in a brusk realistic way to decide whether their merchandise remains in the store and what kind of position within the store will be assigned to it.

Display is Advertising

Department stores are more and more coming to the conclusion that display space is advertising space.

Donaldson's in Minneapolis makes a fixed charge through the merchandise department for windows. Its corner window is appraised at $18 a day, and for a six-day period, costing $108, sales on this merchandise must reach $1200 minimum for the week.

This $1200 minimum was arrived at by reaching an average of sales derived from this window over a period of weeks.

Kiss Me, Kate

We have noted here before the highly deceptive results that are so often obtained in a test or panel where the subject under test is based upon a sense of taste or a sense of smell. Now a new one appears in a recent taste test conducted by the Delta Packing Company.

This company believes that garlic has been assuming much greater importance in the last several years in flavoring, such as in food spicing.

In a test of garlic spiced olives, this company discovered that in a poll taken among a large sampling of people 83 per cent declared that they did not like garlic. However, when these same people tasted a food product first without garlic and then with garlic flavoring, 86 per cent stated that they preferred garlic flavored food.

The Illustrated Carton

In order to acquaint a number of production designers with first hand knowledge of the new application of sheet-fed gravure to carton printing, Robert Gair Company, Inc., New York, recently conducted a group of designers through the plant in the same progression that a carton would go.

Sheet-fed gravure printing gives unusually faithful color reproduction of such drawn or depicted photographs. It possesses a brilliance, depth and range of color values not obtainable by other methods. For the first time absolute fidelity of reproduction on boxboard is assured.

Up to the present, this process has been limited exclusively to expensive reproductions of fine art. Gravure presses, heretofor adapted only for printing on paper, were built to Gair's specifications to produce the high quality of paperboard printing.

With gravure, unlimited types of art can be used on cartons. Designers in planning a carton to be printed by gravure can draw upon a wide range of art and photographic techniques to achieve a dramatic package.

Department of Commerce Monthly Retail Trade Report

Retail sales of all kinds in drug and department stores showing sales for the month of December 1950 as compared with the same period in 1949.

	Department Stores	*Drug Stores*		*Department Stores*	*Drug Stores*
Atlanta	+6	+4	Minneapolis	+5	+19
Baltimore	+4	+7	Milwaukee	+8	+9
Birmingham	+29	+6	Newark	+10	X
Boston	0	+6	New York	+4	+8
Chicago	+4	-1	Philadelphia	+8	+4
Cincinnati	+8	+6	Pittsburgh	-7	+4
Cleveland	+19	+19	Providence	+1	+2
Dallas	X	+4	St. Louis	+2	-5
Detroit	+12	+9	San Francisco	+6	+5
Los Angeles	0	+1	Seattle	+15	+11

Seeing is Believing

Finnley Williams, Manager of the store Planning and Display Department, Sears Roebuck and Company said recently:

"A customer's reaction to a store as to all its surroundings is about 87 per cent visual. He wants to *see* the merchandise, and he wants to see it presented in such a manner that he can examine it at his leisure and make up his mind about it. If he can do this, he doesn't care (and this has been proved time and time again) if he doesn't have a sales person at his elbow every minute of the time he is in the store. In fact, he doesn't want to be unduly "sold;" he prefers to be left somewhat to his own devises if, and this is the crux of the matter, he can easily find what he wants and also the price."

Mr. Williams believes that there is a trend towards a customer preference for a nominal degree of self-service. This would indicate that even in stores exclusively committed to personal selling that a strong trend will develop towards some partial form of self-service.

Mr. Williams continues, "On busy days sales people may be outnumbered as much as four or five to one. But imagine the chaos, the dissatisfaction, the walkouts which do occur in such situations as the store itself is not so set up that merchandise can practically sell itself."

Many Arrive, Few Chosen

In a speech before the annual meeting of the National Retail Dry Goods Association, William J. McLaughlin, Sales Promotion Manager, McCurdy's, of Rochester makes a tearful complaint about the tonnage of letters, circulars, folders, mats and other printed matter received by department stores.

He suggests:

"A good glossy photograph gives us flexibility and a fine newspaper production. 65 per cent of the stores want 'em. 55 per cent want black and white prints of manufacturers' national advertising photographs. Most advertisers do a different type of retail job . . . so that there is *no* connection or continuity between national and retail advertising.

"Sixty-five per cent of the stores want mats OF THE PRODUCT only. Reproductions of other stores' ads are helpful.

"Most stores want three weeks time prior to publication of their local advertising.

"The larger the store, the longer the period required."

Display Shortages

The display managers of Allied Stores, Inc. recently met to decide how to cope with the personnel and material shortage problems that may develop.

As a result of this conference, a decision was made to start working on plans for a clinic to set up Allied standards based on "best by tests" techniques.

It was also suggested here that a program be prepared to show the comparison between the cost of display per square foot to the cost of newspaper advertising.

50 years of

—A GUARANTEE OF

To the business and industrial communities of the United States and Canada, Canco's pioneering in the future will mean what it has meant for the last 50 years:

Not only better containers, but also new containers to meet the needs of our never-static economy . . .

Plus improved methods of packaging and processing, faster machinery, and the fulfillment of the vision of a research organization without equal in the field.

In the distributing industries, Canco's pioneering will continue to pay dividends in easier, safer, and more

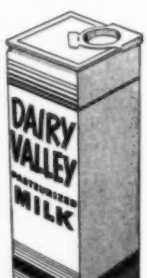
The sanitary can—most famous of all metal containers—made commercial canning of fruits and vegetables possible—revolutionized the grocery business—changed America's eating habits.

American

CONTAINERS . . . to help people live better

The "Double-Tite" paint can expanded the paint business—brought ready-mixed paints to millions by making it practical for these paints to be packed and shipped everywhere.

The vacuum-pack coffee can—permitted roasters to protect from roaster to consumer the flavor and aroma of fresh-roasted coffee.



Canco's Paper Milk Container—gave tremendous impetus to store milk sales for dairies all across the country—allowed grocers to give housewives milk in a sanitary, easy-to-carry, one-way container.

Canco Pioneering

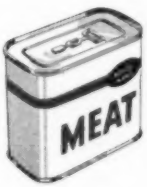
LEADERSHIP IN THE DAYS AHEAD.

economical handling of packaged goods.

And to everyone who eats, patronizes a drugstore, drives a car, maintains a home, serves in our armed forces—Canco's pioneering will continue to make possible a myriad of products . . . of better quality.

As we look ahead with determined resolve to the next half-century, we affirm this steadfast purpose: *Canco will contribute even more* to industry and government, and bring even better living to even more people.

On this page are familiar containers of today pioneered by Canco.



The meat can boomed the canned meat business—provided housewives with a new and wide variety of readily prepared meats.

An adaptation of the sanitary can, this container assured motorists of getting refinery-sealed motor oil. Gave huge boost to sales in service stations in every state.

Can Company

CANCO

New York • Chicago • San Francisco
Hamilton, Canada

The beer can trademarked "Keglined"—the first non-returnable container for beer and ale—brought new conveniences to beer drinkers everywhere—lowered distribution cost.

The salt container prevented excessive caking which took place in the old-fashioned bags. The aluminum pouring spout made easier the housewife's task.

This container protected first-aid units of blood plasma in World War II. An adaptation of Canco's tennis ball can.

For -powder

-powder

-powder

-powder

there's nothing better than a Continental container

If you make a powder essential to personal cleanliness or daintiness, Continental is a name to know. We turn out powder cans in many sizes and shapes, and with all manner of dispensing heads. We're old hands at protecting the flavor, scent and efficacy of tooth powders and talcums, dental plate holders or cleaners or foot powders. And our lithographers are masters at decorating for sales appeal.

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NEW PRODUCTS AND NEW PACKAGES

ABBOTT LABORATORIES have prepared two new products, Sur-Bex Syrup and Procaine-Epinephrine solution, and improved another, Nembutal Elixir. The syrup is orange-colored with a modified orange flavor that masks the bitterness of the B vitamins. Each teaspoonful supplies six times the minimum daily requirement of thiamine, three times that of riboflavin, and two times the recommended daily dietary allowance of nicotinamide.

The new Elixir has the same potency as the old preparation, but the taste, color, odor, miscibility and compatibility are said to be greatly improved. It has a pH of 4 and can be mixed with infant's formula or whole milk, and will remain stable even when heated.

The Procaine-Epinephrine Solution is for the administration of spinal anesthesia, which has been reported prolonged 40 to 60 per cent when the two drugs are used simultaneously. There is no evidence of increased toxicity as compared with procaine alone, and no evidence of an increase in undesired side-effects.

HARRIET HUBBARD AYER is presenting Mint Rose, a vibrant pink lipstick flavored with mint. The texture of the lipstick is velvet soft, with a color that lasts a long time. The lipstick and rouge each sell for $1.25.

BRISTOL LABORATORIES INC. are offering Cilloral Buffered Penicillin Powder with Triple Sulfonamides and also Cilloral Penicillin Tablets with Triple Sulfonamides. These combinations provide a possible synergistic antibacterial action against a wider range of infections than any of the components would do by themselves. The combination of three of the least toxic sulfonamides, sulfadiazine, sulfamerazine, and sulfamethazine, according to the company, eliminates almost completely the danger of crystalluria and consequent renal damage.

Another Bristol product is Biogels *Improved* which is replacing the former product, Biogels. It is a multivitamin capsule containing Vitamins A, B_1, B_2, B_{12}, C, D, and Nicotinamide, among others.

ENDO PRODUCTS INC. has added Hepcovite Drops and Vidac to its line of vitamin preparations. Vidac is a combination of vitamin A, D, and C, and is intended to provide a sufficient vitamin intake for normal growth, also to counterbalance the effects of gastrointestinal disturbances which may interfere with vitamin absorption. Hepcovite Drops, a solution of crystalline vitamin B_{12}, aids general child growth and functions as an appetite stimulant.

MAX FACTOR has packaged its World of Beauty Hand Lotion in a new economy size 9-ounce non-breakable plastic dispenser with finger-tip squeeze. It sells for $1.30 plus tax.

HYDROLAMINS CO., INC. is introducing Hydrolamins, an amino acid preparation for the relief of itching. This anti-pruritic ointment, which contains no anesthetic to cause irritation, should be applied to the itching area morning and night for relief.

LEDERLE LABORATORIES have announced a new type of canine distemper virus vaccine, Canine Distemper Virus (Modified). It can be given safely to normal dogs, requiring only one injection. Another new product, Folvron-B Capsules, is indicated for the prevention and treatment of iron-deficient megaloblastic anemias. They are available in bottles of 100, 500, and 1,000 capsules.

Lederle has also prepared Aureomycin Pharyngets, new highly palatable lozenges for prescription in treating oral infections. They are pleasantly orange-flavored, containing 15 mg. of Aureomycin Hydrochloride Crystalline with methylparaben and propylparaben.

PRINCE MATCHABELLI is offering new two-ounce size bottles of Stradivari and Crown Jewel Colognes Parfumes in addition to the usual four-ounce bottles. As part of this Spring's special promotion, Matchabelli is also introducing new packaging of the Prince Matchabelli Sceptre Colognes, with a gift crown bottle, purse size, of the matching perfume attached to the outside of each two-ounce and four-ounce boxed cologne.

McNEIL LABORATORIES have released Bronsyl, a new cough syrup which combines dihydrocodeinone bitartrate, potassium iodide, and racemic desoxyephedrine hydrochloride in a highly palatable, amber-colored solution.

THE MENNEN COMPANY has introduced Mennen Spray Deodorant For Men, which is said to check odor and perspiration quickly and effectively, for as long as three days with a single application.

ORGANON INC. announces the preparation of two new products, Ace-

These handmade bottles, available in seven sizes from one dram to eight ounces, are excellent containers for perfume and toilet water. They can be supplied with attractive, fired-on ceramic labels.
CARR-LOWREY GLASS CO.
Designers and manufacturers of fine glass containers
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toxanon, for relief in rheumatoid patients, and Stenediol, useful in the treatment of tissue-building where retarded growth is concerned. Acetoxanon is reported to have produced relief in about 60 per cent of those rheumatoid patients treated by reducing the swelling of the joints, relieving the pain, and providing an increased range of motion.

CHAS. PFIZER & CO., INC. has introduced a concentrated oral drop form of terramycin. This is the first of the wide-range antibiotics to be made available to the medical profession in this concentrated liquid form. The Crystalline Terramycin Hydrochloride Oral Drops provide 200 mg. of terramycin per cc. (or 50 mg. in about eight drops). It is believed that the new concentrate will be used largely in pediatric practice and also for older patients unwilling or unable to tolerate the other forms of oral antibiotic medication.

PLAX CORPORATION has designed a 32-ounce unbreakable Plaxpak polyethylene bottle in the Standard Boston Round shape for heavy duty use. The new quart size bottle is the largest plastic bottle blown in a single piece.

PRIMROSE HOUSE INC. has added a new ingredient to its Hi-Sheen cream shampoo, making it lather more freely. The shampoo appears in new 4-ounce glass jars, having decorated surfaces which enable wet hands to hold them securely. The label is permanently lithographed on metal caps, supplied by Bernardin Bottle Cap Co. The jars were designed and manufactured by Armstrong Cork Co.

NINA RICCI, INC. is offering a new Fille d'Eve Eau de Toilette in pale green color, for the exclusive distribution of Jacqueline Cochran, Inc. The bottle was designed by Lalique.

THE ANDRE L. RICHARD CO. INC. has made a satin case designed to carry a compact and lipstick. The case is lined with velveteen and the outside is made of heavy satin in black, cerise, gold, emerald, wine and navy.

HELENA RUBINSTEIN has introduced Hand Bleach Cream, a new bleach cream which specializes in lightening and brightening brown spots, discolorations and freckles on hands, arms, neck and shoulders. Non-sticky, and quickly absorbed into the skin, the new cream helps soften as well as whiten the skin. Packaged in a two-ounce jar, the delicately scented cream sells for $1.00 plus tax.

SCHENLEY LABORATORIES, INC. announces the availability of three new products: Kinavosyl Elixir, which is the equivalent of a 0.5 gram tablet of the drug, Kinavosyl; Vascutum Tablets, which are designed as a prophylactic and therapeutic aid in atherosclerosis and related degenerative disorders; and Tetracillin Tablets, which combine penicillin with an approved sulfonamide mixture for improved oral therapy in certain infections.

Schenley has also announced that the name of Streptomycin-Penicillin Ophthalmic Ointment has been changed to Snycrobin Ointment.

SCHERING CORPORATION has prepared Chlor-Trimeton Maleate Injection, indicated in the treatment of certain allergic conditions involving the skin and mucous membranes, where a a more prompt action is desired than would be possible with oral medications. It may also be used to prevent anticipated reactions to serum, penicillin, liver extract, and insulin.

SCHIAPARELLI'S latest addition to the Zut line of French fragrance is a gift package containing the new 2-ounce bottle of Eau de Cologne plus a miniature of Zut perfume, both encased in a mauve and green box. Both items can also be purchased individually.

THE UPJOHN COMPANY has developed two new products, Cer-O-Cillin, an improved antibacterial substance, and Vitamin K Analogue, indicated primarily for counteracting overdosage of Dicumarol therapy. Clinical studies have shown that Penicillin O is considerably less allergenic than Penicillin G, and is indicated in penicillin G-sensitive patients in the treatment of streptococcic and similar conditions.

WINTHROP-STEARNS INC. has introduced a stronger solution of vitamin C for injection as Cantaxin 500 mg., in 5 cc. vials. The 100 mg. solution of Cantaxin ir 2 cc. ampuls is being continued.

Another new product recently introduced is Synephricol Thenfadil, an antihistaminic which aids in relieving the persistent cough frequently accompanying bronchitis due to or associated with allergy. It is supplied in bottles of 1 pint and 1 gallon.

NEWS FROM THE CREATORS OF THE SENSATIONAL NEW

RICHFORD SPILLPROOF* PERFUME FLACONS

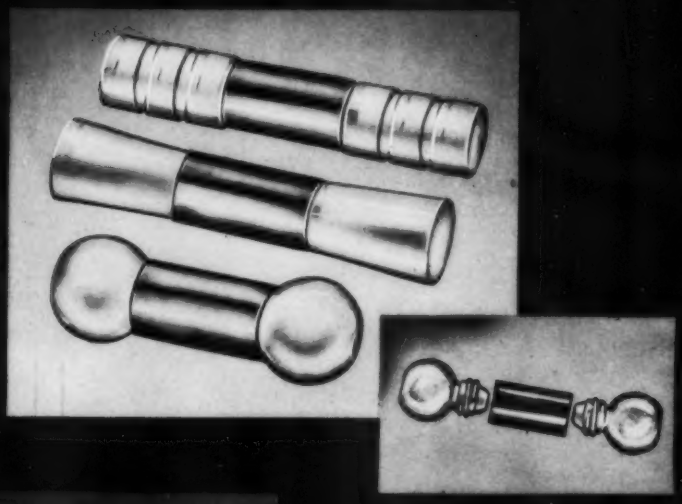
SPILLPROOFS

Top Left:
Plain Round (1 dr.)

Top Right:
Plain Round (1½ dr.)

Lower Left:
Pinched Square (1 dr.)

Lower Right:
Watch Case (1 dr.)



DUETTES

for day & night perfumes

Twin ½ dram flacons on polished brass closure

Top:
Fancy Round

Center:
Tapered Hour Glass

Bottom (and inset):
Dumb Bell

New designs (pat. pending) immediately avail or your own suggestions develo by Richford *design engineers*

SPILLPROOFS IN METAL

Plain round (1 dr.) encased in highly polished metal container with flush cap.

PATENTS PENDING
*TRADE MARK

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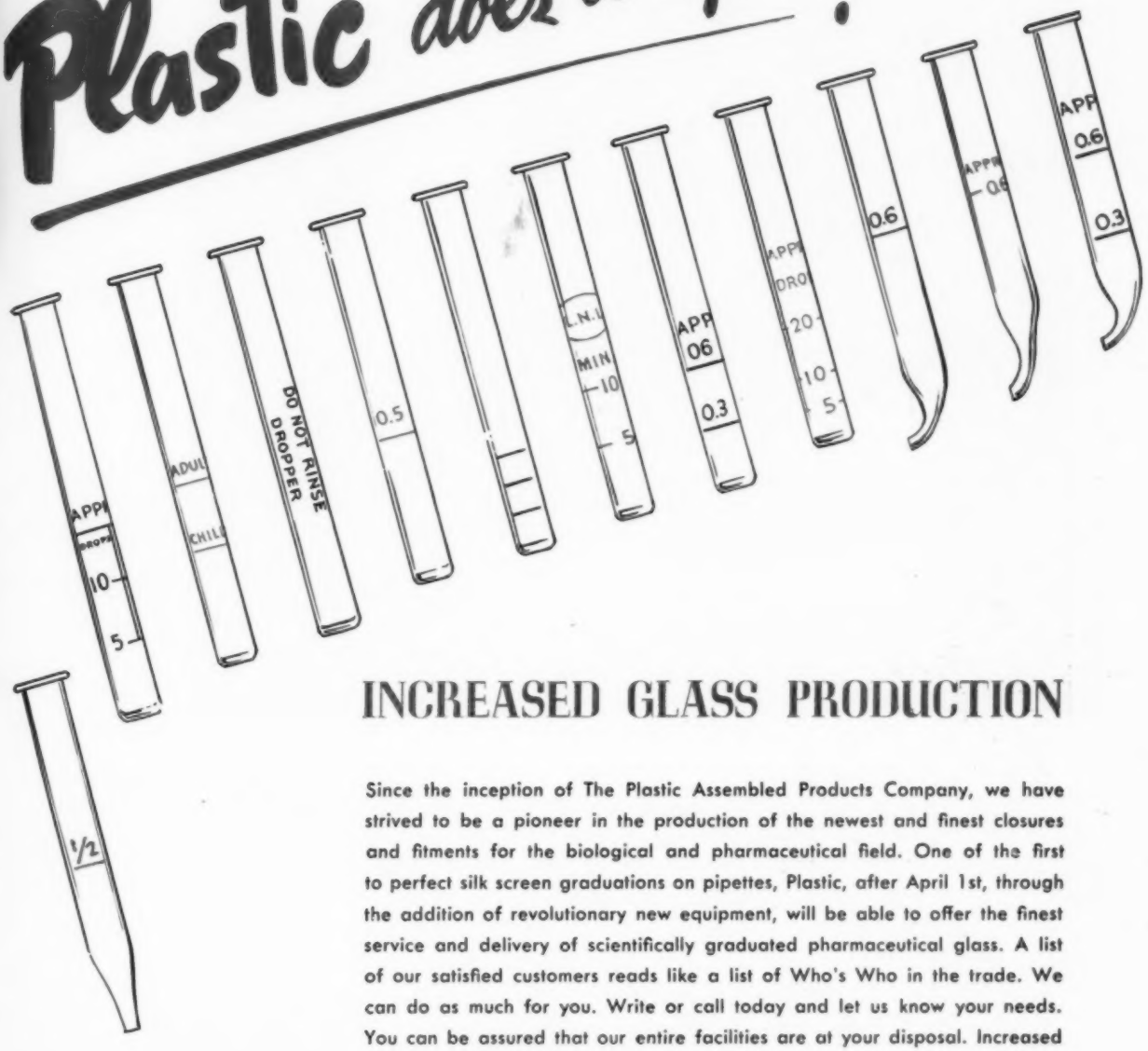
NEW YORK 10, N. Y.

Plastic does it again!



INCREASED GLASS PRODUCTION

Since the inception of The Plastic Assembled Products Company, we have strived to be a pioneer in the production of the newest and finest closures and fitments for the biological and pharmaceutical field. One of the first to perfect silk screen graduations on pipettes, Plastic, after April 1st, through the addition of revolutionary new equipment, will be able to offer the finest service and delivery of scientifically graduated pharmaceutical glass. A list of our satisfied customers reads like a list of Who's Who in the trade. We can do as much for you. Write or call today and let us know your needs. You can be assured that our entire facilities are at your disposal. Increased capacity means faster delivery.

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World's Largest Manufacturer of Dropper Fitments

For Revlon the choice is a trim Plaxpak bottle for Aquamarine Lotion Deodorant. Fingertip pressure on the colorful bottle releases exactly the desired amount of lotion. Controlled dispensing — an inherent feature of the Plaxpak bottle — is but one of many advantages. It is also light in weight, nice to the touch and smashproof. Color and decorative possibilities are unlimited. In the Plaxpak bottle, you have unique qualities to stimulate buying and to foster increased product use.

Only the best is

PRODUCTS OF OUR ASSOCIATES INCLUDE:

AUTOMATIC PACKAGING EQUIPMENT

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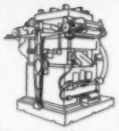
Division of Hartford-Empire Company
PORTLAND, CONNECTICUT

GLASS MAKING MACHINES

GLASS DIVISION
Hartford-Empire Company
HARTFORD 2, CONNECTICUT



HIGH SPEED AUTOMATIC PRESSES

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Division of Hartford-Empire Company
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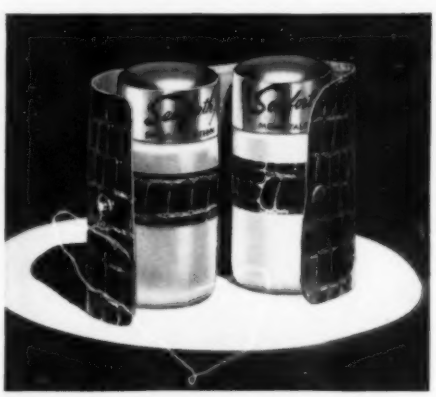
PREMIUM QUALITY STAMPING PRESSES

THE V & O PRESS CO.
Division of Hartford-Empire Company
HUDSON, NEW YORK

For Courtley an embossed, flask-shaped Plaxpak bottle provides a handy, handsome, lightweight container for Antiseptic Body Powder. A quick squeeze produces a fine powder spray.

For Youngsters this sleek but tough airplane of Plax Polyflex* means hours and hours of outdoor fun. Polyflex is oriented polystyrene sheet — strong, easy to work, and low in cost.

For Richard Hudnut's fitted case, two light pink Plaxpak bottles provide attractive containers for Du Barry Skin Freshener and Foundation Cream. Fitted cases are smarter, lighter and more convenient with Plaxpak bottles.



For Seaforth Plaxpak bottles form a compact traveler's twosome. Light and smash-proof, the kit can be squashed into a suitcase and hauled anywhere that duty calls. Kit has Seaforth Shaving Lotion and Men's Talc.

good enough

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HELPFUL PLAX LITERATURE
Catalogs on Plaxpak bottles and other Plax products are available on request. Also available is a booklet "Fabrication of Polystyrene."

Plax blow-molded products are made under the following U. S. Pats.: 2128239, 2175053, 2175054, 2230188, 2230190, 2260750, 2283751, 2349176, 2349177, 2349178. *Reg. U.S. Pat. Off.

*Fully protected by U. S. Patent 2,491,947. Foreign patents pending.

a patented* method for printing polyethylene bottles

Color engraving — Hot stamping
Patented Process — Exclusively ours!

Assures a permanent, colorfast, debossed, color wiped-in effect on polyethylene bottles, to a high luster.

Alcohol proof — cannot rub off.

Superior reproduction facilities for 250,000 per day.

All colors including gold and silver.

Registers to the utmost detail, flat or design motif.

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We have equipment and experience for producing metal containers and components for defense packaging. Write for information and quotations or call your nearby Alcoa Sales Office.

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ALCOA
CLOSURES

FORMERLY SOLD AS ALSECO SEALS

Manufacturers like Clairol, Incorporated, protect their reputations as well as their products with Alcoa Pilferproof Closures. Because these closures positively reveal tampering.

Pilferproof Closures are tailored to each individual bottle to provide a secure, leak proof seal. Alseco Sealing Machines apply them at speeds up to 300 per minute. Write for our free catalog.

Because rearmament needs for aluminum must be served first, you may have to wait for Alcoa Closures. Your nearby Alcoa sales office can give you information on all types of Alcoa Closures and their availability.

The rolled-on locking ring joined to the cap shows that the Alcoa Pilferproof Closure has never been opened.

Cap, when removed, breaks away from locking ring, gives permanent evidence of tampering.

ALUMINUM COMPANY OF AMERICA • 1702C GULF BUILDING • PITTSBURGH 19, PA.

NEWS...

Gen. Casey With Schenley Labs.

Major General Hugh J. Casey has joined Schenley Laboratories, Inc. as assistant to the president, in which capacity he will work closely with Brigadier General E. F. Jeffe, executive vice-president, in top-management functions for the pharmaceutical concern. General Casey had previously been executive vice-president of the Pennsylvania Hospital, Philadelphia, immediately following his retirement from active duty with the Army.

MAJ. GEN. HUGH J. CASEY

Schering Conference

Schering Corp. recently held in the home offices a combined conference of all field supervisors and division managers of both the domestic and international sales divisions. Seventeen domestic key field executives and sales and subsidiary company executives from the 42 countries in which Schering operates assembled at the week-long conference.

Francis C. Brown, president, outlined over-all sales policies and research objectives at general sessions, while plans which had been formulated for extending the scope of Schering operations in both hemispheres during the coming year were discussed by Dr. John N. McDonnell, vice-president.

1951 Packaging Institute Forum

The thirteenth annual forum of the Packing Institute will be held at the Hotel Commodore, New York, on October 22, 23, and 24, in 1951, according to Charles O. Kendall of E. R. Squibb & Sons, president of the Institute.

Matchabelli Increases Sales Staff

Prince Matchabelli has added four new representatives to its sales staff. Phyllis Fehn, formerly of Helena Rubinstein, will cover North and South Carolina, Florida, Georgia, and Alabama; Hugh Hartnett will operate in the Northwestern states; Elmer Nelson, the Rocky Mountain area; and Lionel Share will represent Matchabelli in California, Nevada, and Arizona, in addition to the manufacturers he has represented in the West for the past ten years.

Kline Receives Procter Medal

C. Mahlon Kline, president of Smith, Kline & Franch Laboratories, received the Procter Medal at the 90th annual dinner of the Philadelphia Drug Exchange on February 1, "for outstanding service in the advancement of the pharmaceutical arts." During the dinner, attended by 300 leaders in the industry, Admiral William H. P. Blandy, president of the Health Information Foundation, delivered an address on the atom bomb.

Dr. Charles E. Vanderkleed, the last recipient of the award, presented the Proctor Medal to Mr. Kline, while Dr. Alfred Newton Richards, Emeritus Professor of Pharmacology at the University of Pennsylvania School of Medicine, also paid him a tribute. John F. Zinsser, chairman of the board of Sharp & Dohme, Inc., served as toastmaster for the ceremonies, and Dr. Paul S. Pittenger, president of the Drug Exchange, was presiding officer.

Mr. Kline entered the pharmaceutical business in 1901, became vice-president of the Smith, Kline & French Company in 1910, as it was known then, and president in 1920.

C. Mahlon Kline, left, president Smith, Kline & French Labs., receiving Procter Medal citation at 90th Annual Dinner of Philadelphia Drug Exchange. Dr. Charles E. Vanderkleed, right, presents medal, as Admiral William H. P. Blandy, president of Health Information Foundation, looks on.

Tintair Enlarges Staff

Tintair has added seven more district sales representatives to the staff, according to Phil Kalech, senior vice-president in charge of sales for Bymart, Inc. Jack E. McCausland has been assigned to Maryland and Pennsylvania; Henry H. Brundage, Missouri; George A. Wharton, Michigan; Herbert A. Swanson, Minnesota, North and South Dakota; Mack S. Prichard, Texas; and S. Louis Windt, part of New York.

West Heads Lehn & Fink Drug Div.

Eugene N. West has been appointed head of the drug division of Lehn & Fink Products Corp., according to Edward Plaut, president. He will be in charge of all activities of the company's drug products.

EUGENE N. WEST

N.½Y. Q. Buys Plant in N. J.

The New York Quinine and Chemical Works, Inc., wholly owned affiliate of S. B. Penick & Co., has completed the acquisition of substantial plant facilities located on Mt. Olivet Ave., Newark, N. J., according to S. B. Penick, Jr., president. The plant was formerly occupied by American Cyanamid Co. The property comprises eleven acres of land, with an aggregate of 26 buildings containing more than 200,000 square feet of floor space.

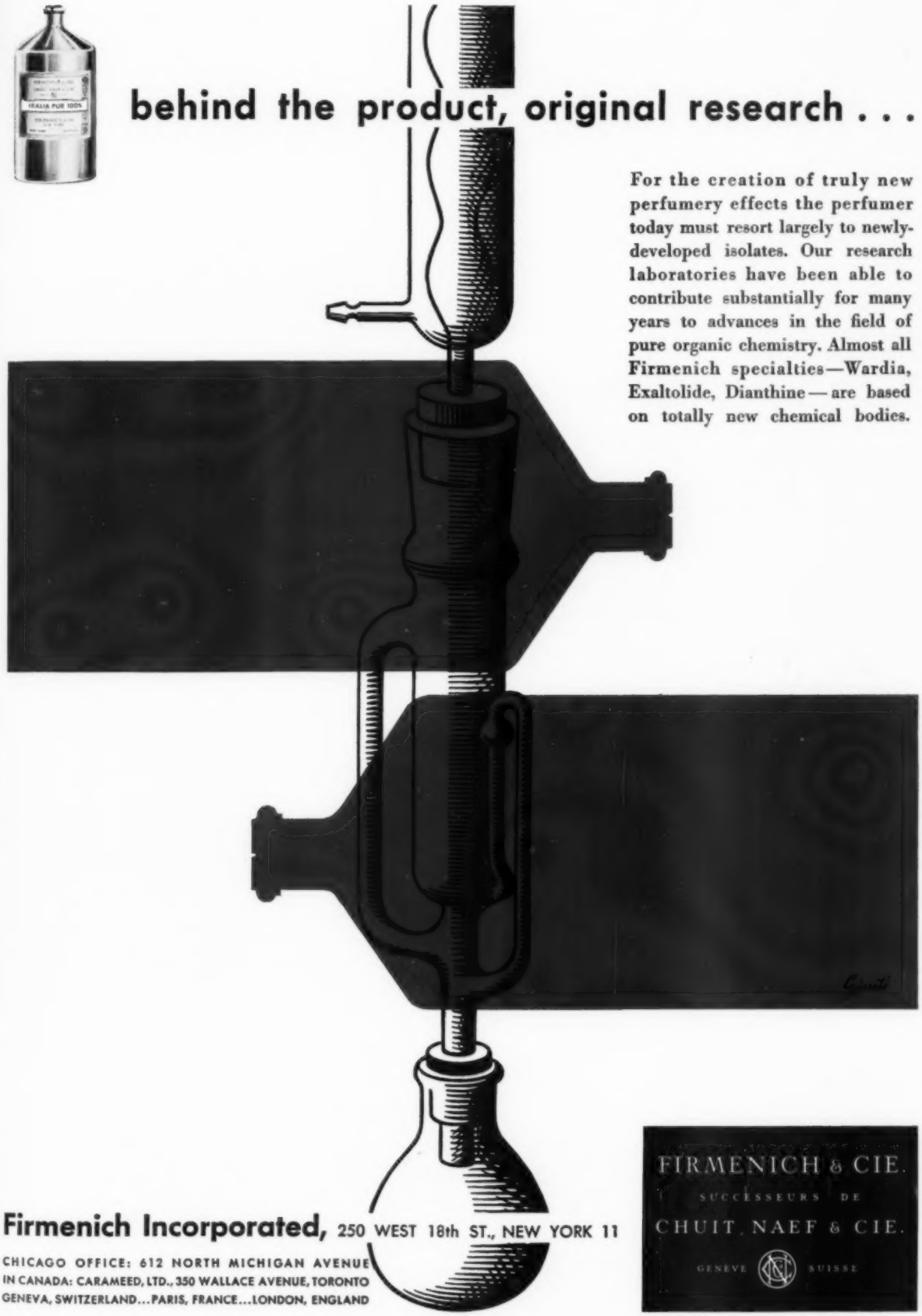
The new plant, acording to Francis J. Reid, executive vice-president, will provide needed facilities for the company's present business. Eventually the company will transfer all of its operations from Brooklyn to this new location in New Jersey.

With Robert Gair Co.

John Driscoll has become manager of the New York sales office of Robert Gair Company, Inc., according to Wray H. Callaghan, general sales manager of the folding cartons division.

behind the product, original research . . .

For the creation of truly new perfumery effects the perfumer today must resort largely to newly-developed isolates. Our research laboratories have been able to contribute substantially for many years to advances in the field of pure organic chemistry. Almost all Firmenich specialties—Wardia, Exaltolide, Dianthine—are based on totally new chemical bodies.



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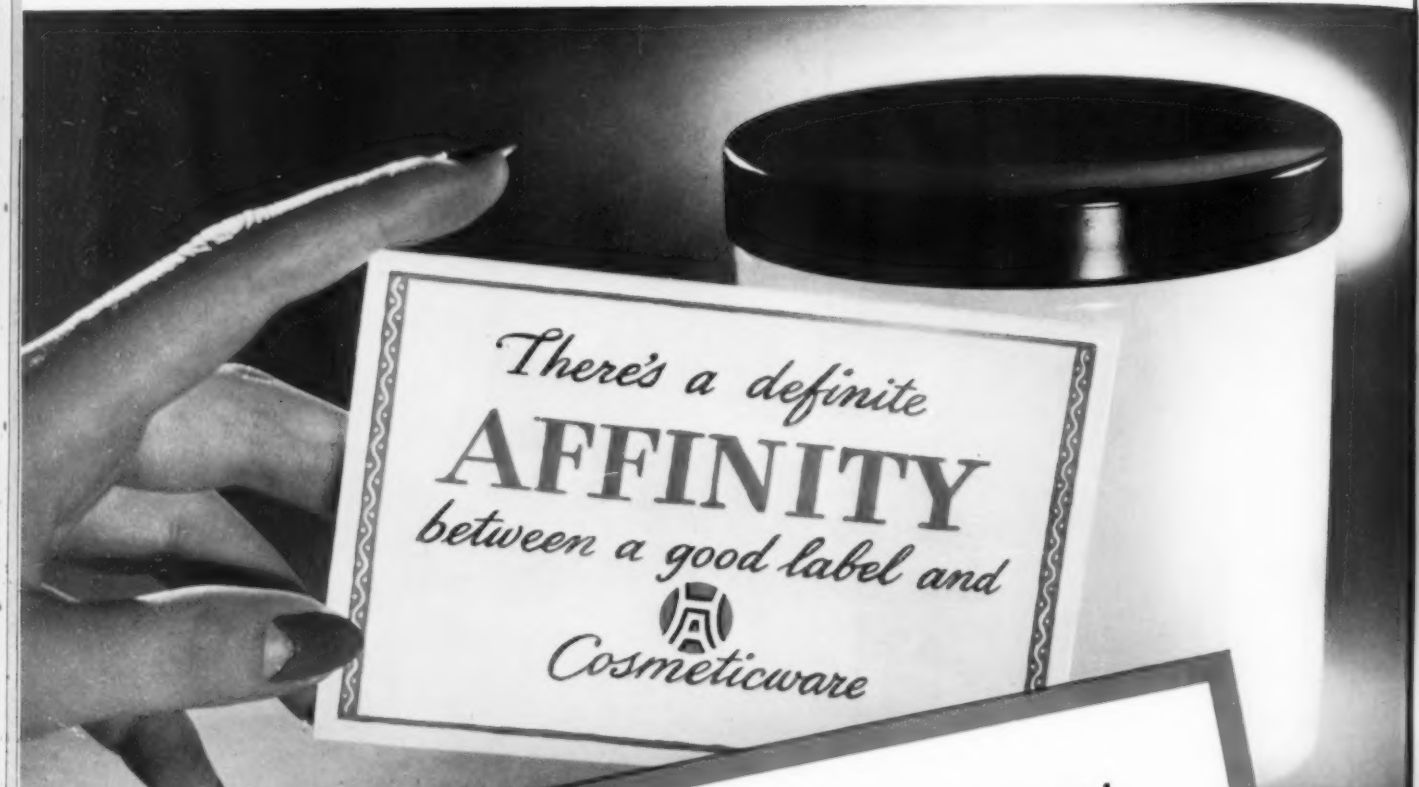
Mutual Admiration



There's a definite affinity between a good label and H-A Cosmeticware.

For H-A opal jars and crystal bottles are built for maximum display with ample label space so that quality products quickly tie in with quality names.

H-A Cosmeticware is as sales-minded as it is efficient.

Hazel-Atlas Glass Company

Wheeling, West Virginia

Gould Named V.P. Assoc. Prods.

Bernard Gould has been elected vice-president of the Associated Products, Inc., according to Morris L. Levinson, president. For the past two years he has served as director of sales of the Toni Company in charge of all sales and promotional activities and market research.

BERNARD GOULD

Elected Pres. Parenteral Drug Ass'n

Paul de Haen, of Ames Co., Inc. has been elected president of the Parenteral Drug Association, 39 Broadway, N. Y. Additional officers for 1951 include S. B. Bradshaw, Armour Labs., vice-president; Max Gold, Golf Leaf Pharmacal Co., Inc., secretary; and Stanley Halley, Sandoz Pharmaceuticals, treasurer. Arthur D. Herrick will continue to act as executive director and general counsel. The association, according to Mr. de Haen, has extended the character of its membership by opening it to individuals as well as corporate firms in the parenteral drug field, and by removing the past distinction between active and associate members Annual dues for individuals have been fixed at $25.

Percy Magnus Addresses Chem. Ass'n

Percy C. Magnus, president of Magnus, Mabee and Reynard, Inc., spoke at the February 26 meeting of the Chemical and Allied Industries Association of Michigan on the essential oil industry.

The association opened its 1951 season on January 26 with a dinner meeting at the Detroit Leland Hotel. Roy Farnum, R. P. Scherer Corp., president, reserved the meeting to pay special tribute to two long-time members, Walter R. Daniels, Parke, Davis & Co., and A. S. Bedell, Beauty Counselors. They were awarded gold lifetime membership cards in the association.

Appointed by Syntomatic

Adolph Koenigsberg has been appointed special sales representative for the flavor division, Syntomatic Corp., according to Irving Bennett, vice-president and sales manager. Mr. Koenigsberg has been associated with the flavor industry for 25 years.

ADOLPH KOENIGSBERG

Fishel Joins Schenley

Jesse C. Fishel has joined Schenley Laboratories, Inc. as an assistant to the president and will work closely with Brig. Gen. E. F. Jeffe, executive vice-president, in key management functions.

Fragrance Exhibit at Flower Show

The Fragrance Foundation, Inc. announces that Tom Lee, Ltd. designed and set up the organization's exhibit at the International Flower Show which was held at Grand Central Palace from March 5 to 10. The exhibit pictured the romance, history and beauty of fragrance.

Industry Joint Defense Appeal

Jack I. Poses, president of D'Orsay Sales Co., and Samuel Rubin, president of Faberge, Inc. are serving as co-chairmen of the Drug and Cosmetic division of the Joint Defense Appeal in Greater New York, along with M. K. Katz, merchandise manager of the smallwares division of Gimbel Brothers. Associate chairmen are Louis I. Furlager, president of the Furlager Manufacturing Co.; Benson Storfer, president, and Herbert F. Storfer, vice-president of Parfums Corday, Inc.; and Meyer Weiner, Treasurer of the U. S. Vitamin Corp.

The executive committee for the industry drive includes: Herman L. Brooks, Alexandra DeMarkoff Sales Corp.; Isidor Alter, A'Cadia Powder Puff Co.; Leo Bertisch, Charles Green Sales Co.; Emanuel Katz, Doeskin Products, Inc.; Arthur J. Kinsman, Purepac Corp.; Oscar Kolin, Helena Rubinstein; William S. Lasdon, Pyridium Corp.; Howard Mack, Mack Drug Co.; Joseph L. Mailman, Pal Blade Co.; Martin Revson, Revson; Ben Sevran, Gimbel Bros.; Richard Solomon, Charles of the Ritz; and Stanley R. Swaback of Abraham and Straus.

Emelin Named V.P. Schenley Labs.

A. C. Emelin has been elected vice-president in charge of sales operations for Schenley Laboratories, Inc. and will make his headquarters in Lawrenceburg, Ind. He will be responsible for all sales activities. Before joining Schenley Laboratories in 1944, Mr. Emelin had been with Parke-Davis & Co. for 10 years.

Attending dinner-sales meeting of Florasynth Labs., Inc. to discuss market problems and quality of Florasynth products. Standing, left to right, are Jack N. Friedman, Robert O. De Zemler, Ray Ross, Murray Simon, and Fred Kromholz. Seated, are, Arch Payne, David E. Lakritz, Mrs. Charlotte Senior, William Lakritz, and Joseph H. Fein.

How Many of These Fine Chemicals Do You Use in Your Pharmaceutical Preparations?

The J. T. Baker Chemical Co. supplies drug and pharmaceutical companies with many fine chemicals manufactured to exacting standards of purity.

Below you will find for your convenience six groups of fine chemicals, according to their use for antacid preparations, germicides and antiseptics, injectables, sedatives, analgesics and laxatives.

All of these chemicals are manufactured under rigid laboratory control to help maintain the reputation of your company's products.

Chemicals for Injectables

Ammonium Citrate
Antimony Potassium Tartrate
Bismuth Subsalicylate
Caffeine
Calcium Chloride
Dextrose
Ferric Ammonium Citrate (green)
Magnesium Sulfate
Mercuric Iodide (red)
Procaine Hydrochloride
Silver Nitrate
Sodium Benzoate
Sodium Bisulfite
Sodium Chloride
Sodium Citrate
Sodium Iodide
Sodium Salicylate
Sodium Thiosulfate

Chemicals for Antacid Preparations

Aluminum Hydroxide
Bismuth Subgallate
Bismuth Subcarbonate
Magnesium Carbonate
Magnesium Trisilicate
Magnesium Oxide
Bismuth Subsalicylate
Bismuth Subnitrate
Magnesium Hydroxide
Magnesium Phosphate

Chemicals for Sedatives

Acetanilid
Chloral Hydrate
Sodium Pentobarbital
Ammonium Bromide
Potassium Bromide
Sodium Bromide
Chloroform
Acetophenetidin
Sodium Salicylate
Acetylsalicylic Acid (Aspirin)

Chemicals for Analgesics

Benzocaine
Acetophenetidin
Methyl Salicylate
Procaine Hydrochloride
Acetanilid
Salicylamide
Sodium Salicylate
Acid Acetylsalicylic

Chemicals for Germicides and Antiseptics

Benzoic Acid
Iodoform
Mercuric Chloride
Mercurous Chloride
Mercuric Oxide
Iodine
Phenol
Salicylic Acid
Zinc Chloride
Phenyl Salicylate

Chemicals for Laxatives

Podophyllin Resin
Magnesium Oxide
Potassium Sodium Tartrate
Mercurous Chloride
Phenolphthalein
Magnesium Hydroxide

J. T. Baker Chemical Co., ***Executive Offices and Plant:*** **Phillipsburg, N. J.**

Branch Offices: **New York, Philadelphia, Boston, Chicago and Los Angeles**

Baker CHEMICAL

Baker Chemicals
REAGENT · FINE · INDUSTRIAL

Baker CHEMICAL

Dr. Mattocks with McNeil Labs.

Dr. Albert M. Mattocks has been appointed manager of the pharmaceutical development department of McNeil Laboratories. He has recently been director of the laboratory of the American Pharmaceutical Association and a member of the U. S. P. Revision Committee, 1950-1960, and chairman of the subcommittee on Analytical Methods of the N. F. Revision Committee.

Becomes Consulting Chemist

Dr. Arthur H. Behr has established himself as a consulting chemist and perfumer with office and laboratory at 84 Hillside Ave., Verona, N. J. He had been head of the aromatics research department of the Dow Chemical Co.

DR. ARTHUR H. BEHR

Hudson Labs., Inc. Established

Albert F. Guiteras, Ph. D., has announced the opening of Hudson Laboratories, Inc., consulting chemists and bacteriologists, which will specialize in industrial bacteriology in the food, drug and cosmetic industries, particularly in problems related to disinfection, sterilization and sanitation. Dr. Guiteras was account executive and research coordinator in bacteriology and toxicology for the past ten years with Foster D. Snell, Inc. Rebecca L. Shapiro, formerly chief bacteriologist for 8 years with Foser D. Snell, Inc., has been appointed chief bacteriologist of the firm.

Babcock Named V.P. of Hooker

J. Herbert Babcock, director of development and research, was elected a vice-president of the Hooker Electrochemical Co. at the annual meeting of the board of directors, according to R. L. Murray, president. Charles H. Winkler and Thomas F. Willers were simultaneously made assistant treasurer and comptroller respectively.

Sperti Prods. Reorganized

Sperti Products, Inc. has been reorganized, along with the appointment of George P. Converse as president, according to William H. Albers, chairman of the board. Hudson Budd has been named executive assistant to the president and vice-president of the new company.

The reorganized company will provide support for the basic cancer research conducted by the Institum Divi Thomae in Cincinnati by Dr. George Sperti and his associates. Among the interests being incorporated into the organization are the subsidiaries, Shock-Gusmer, Eagle Stove & Foundry, Sperti Faraday Co., Sperti Citrus as well as the divisions Sperti yeast and Sperti drugs.

The new officers will centralize financial and sales operations from the company's New York offices at 405 Lexington Ave., with production continuing in the corporation's plants located at Adrian, Mich.; Beaufort, N. C.; Cincinnati, Hoboken, New Orleans, Pittsburgh, St. Louis, and in New York.

Personal Products Promotes

Personal Products Corp. has promoted four members of its staff, according to T. E. Batey, director of field forces. E. R. Harrington, midwestern divisional manager since 1942, has been made midwestern regional sales manager in charge of the southwestern, Great Lakes, midwestern, and northwestern divisions. C. J. Copeland, field supervisor in the eastern division, has become national field sales supervisor in charge of retail sales and merchandising training. Frank A. Lorge, assistant divisional manager in the midwestern division, is now manager of that division, and C. A. Brown, district manager of Los Angeles, Seattle, and San Francisco, has been promoted to national sales supervisor of the Pacific Coast division.

Named Consultant to N. Y. S. Health Dept.

Dr. Cortez F. Enloe, Jr. has been appointed special consultant to the New York State Department of Health for medical supplies in the civil defense program,, accoring to Dr. Herman E. Hilleboe, State Health Commissioner. He will assist the department in its program for procurement of adequate stocks of drugs, dressings, blood transfusion equipment and surgical supplies, for emergency medical care.

Lederle Cancels Benzestrol Pact

Lederle Laboratories division and Schieffelin & Co. have announced the cancellation by mutual consent as of January 1, 1951, of their agreement licensing Lederle to sell Benzestrol under Schieffelin's patents. Benzestrol products since that time have been, and will continue to be, manufactured and supplied only by Schieffelin.

Toney Promoted by Bristol-Myers

Vern L. Toney has been named assistant branch manager of Bristol-Myers' western branch at San Francisco, succeeding Bruce Mansfield who was recently promoted to the post of manager of the company's midwestern branch (Chicago).

VERN L. TONEY

Prof. Noyes Addresses Chem. Meeting

The American section of the Societe de Chimie Industrielle held a meeting on February 7 at the Cultural division of the French Embassy, 934 Fifth Ave., New York. Professor W. Albert Noyes, Jr., past president of the American Chemical Society spoke on "Our French Inheritance in Science." Following the lecture, the Cultural Counselor of the French Embassy and Madame Rene de Messieres gave a cocktail party and reception.

A number of representatives of the drug and allied industries attended, including Dr. L. Flett of Allied Chemical & Dye Corps.; Dr. Victor G. Fourman, Syntomatic Corp.; Dr. Eric C. Kunz, Givaudan-Delawanna, Inc.; Dr. Henri Robert, Dodge & Olcott; Dr. Foster Snell; and Dr. Jerome Alexander.

Coutin Elected by Ess. Oil Ass'n

F. P. J. Coutin, vice-president of Roure DuPont, Inc. has been elected secretary-tresurer of the Essential Oil Association, following the resignation of William S. Fairhurst.

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Appointed by Transandino

Frank Sevigne has been appointed technical director of the laboratory and production activities of the Transandino Company, Palo Alto, Calif. (R. C. Gill Laboratory for Curare Research). Until recently, he was laboratory director of Collett-Week-Niebecker, of South San Francisco. George I. Dundas, former technical director, has become vice-president of Transandino, and also of Gill, Dundas, and Co., a newly formed combining organization devoted especially to consultative and distributive service for anesthesiology and allied fields.

In addition to the manufacture of its recently evolved, essentially pure d-tubocurarine chloride, and other curare derivatives, Transandino Company is continuing its research activities in the development, pharmacognosy, and pharmacology of curare, curare alkaloids, natural curariform agents, and other alkaloids and pharmaceuticals, with special emphasis upon crude drugs and their extractives orginating in the American tropics, and recently mentioned in the National Research Council's *Industrial Research Laboratories of the U. S A.*

Four Promotions by Abbott

Edson R. Coar, formerly district manager with headquarters in Seattle, has been appointed western division sales manager of Abbot Laboratories, according to H. S. Wilkinson, director of sales. Additional appointments include Paul G. McGlothing, who succeeds Mr. Coar as district manager in Seattle; Irwin A. Hodge, who replaces Mr. McClothing as district manager in St. Louis; and Ralph R. Spence, who has become a district manager with headquarters in Philadelphia. He succeeds Charles Moyer, who continues as manager of the Philadelphia branch.

Plan DCAT 1951 Annual Meeting

The 61st annual meeting and elections of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, Inc. will take place at Shawnee Inn, Shawnee-on-Delaware, Pa. from September 20 to 22, 1951. The decision was made at the executive committee meeting held on December 21, according to Charles P. Walker, Jr., DCAT chairman, and director and general sales manager of Chas. Pfizer & Co., Inc.

G. B. HAFER

J. T. Baker Appointments

G. B. Hafer has been appointed sales manager of the laboratory chemical division of J. T. Baker chemical Co., replacing H. B. Rasmussen, according to Ralph Clark, vice-president in charge of sales. Mr. Rasmussen, owing to the national emergency, has been appointed to the newly created position of manager of government business, with headquarters in Phillipsburg, N. J.

H. B. RASMUSSEN

Drug & Chem. Ass'n Meeting

John Dolibois, executive secretary of Miami Univesity Alumni Association, was guest speaker at the March 2 dinner meeting of the Cincinnati Drug and Chemical Association, Inc. He related his personal experiences in questioning top Nazis during World War II.

Drs. Kitchen & Rein in Europe

Dr. Delmas K. Kitchen, vice-president and chief medical counsel of Bristol-Myers Co. and its affiliated companies, and Dr. Charles R. Rein, New York University, departed in February for an extensive lecture trip through southern Europe, on the subject of antibiotics and the spirochetal diseases. Dr. Kitchen will also visit Cairo, Egypt to set up a number of clinical investigative projects.

Armour Names 2 New V.P.'s

Victor Conquest has been made vice-president in charge of the research division of Armour & Co., and Thomas E. Hicks has been promoted to vice-president in charge of Armour Laboratories, according to Frederick W. Specht, president. Mr. Conquest had formerly headed Armour research for twenty years, while Mr. Hicks had become general manager of the laboratories last August.

Also announced was the appointment of Emil M. Scher as manager of the midwestern division with offices at the Laboratories headquarters 320 North Michigan Ave., Chicago. This appointment rounds out the list of four division managers named to head the four division recently set up. The other managers include Richard S. Siers, Pacific Coast; B. H. Powell, southwestern; and E. A. Coons, eastern territory.

Industry to Aid Boy Scout Drive

Harry G. Griffiths, president of the Pennsylvania Drug Co., chairman of the Industry division for the 1951 Finance Campaign of the Greater New York Councils, Boy Scouts of America, has announced the formation of the following committees and chairmen representing the drug and pharmaceutical industry.

John J. Toohy, E. R. Squibb & Co., heads the drugs committee; Ford James, Townes & James, wholesalers committee; Nicholas Gesolalde, secretary of New York State Pharmaceutical Association, independent committee; Charles MacCauley, vice-president of Prophylactic Brush Co., sundries committee; Frank Hale, Bristol Meyers Co., proprietary; Leonard Shultes, Hewitt Soap Co., toilet goods; and Fred Lueders, George Lueders & Co., essential oils committee.

These committees will participate in helping the Boy Scouts reach their 1951 finance drive goal of $2,000,000.

Vanilla Bean Ass'n Elections

J. Schmidt, Dodge & Olcott, Inc., was elected president of the Vanilla Bean Association of America, Inc., at the annual meeting held recently. J. Maxwell, Camax Co., was named vice-president and J. Manheimer, of J. Manheimer, treasurer. New directors who were elected were E. S. Buckley, Thurston & Braidich; W. Triest of Zink & Triest; and H. Salamon, F. Huber & Co.

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Bristol-Labor S. A. Formed

Bristol Laboratories Inc., Syracuse, N. Y., and Laborterapica, Sao Paulo, Brazil, have announced the formation of a new Brazilian corporation, Bristol-Labor S. A. This new firm will manufacture, process, and distribute ethical pharmaceutical products in the expanding Brazilian market. Bulk penicillin will be shipped from Syracuse to Sao Paulo for compounding, finishing and packaging operations. Sr. Jose Pires Oliveira Dias is president of Bristol-Labor S. A., and Sr. Domingos Pires Oliveira Dias, general manager.

Bristol-Labor S. A. will distribute the antibiotics and pharmaceutical specialties produced in its new plant to all parts of Brazil through the established trade channels of Laborterapica.

Headquarters of new Brazilian corporation, Bristol-Labor S. A., which will manufacture, process and distribute ethical pharmaceutical products in expanding Brazilian market.

Appointed by Wm. S. Merrell

Dr. F. J. Murray has been appointed head of the bacteriology department of the Wm. S. Merrell Company, according to Dr. Harold W. Werner, director of Merrell Scientific Laboratories. He will have the double responsibility of developing new products and insuring rigid control of quality standards of finished drug products.

DR. F. J. MURRAY

Godschall Wins Strong Cobb Award

Henry S. Godschall, eastern sales manager of Strong, Cobb & Co., won the Strong Cobb gold cup award for outstanding sales increase for 1950. This is the second year in succession that he has received the award.

Ellis Appointed by Comm. Solvents

Sydney T. Ellis has been appointed assistant to the president of Commercial Solvents Corp., according to J. Albert Woods, president, and will be principally responsible for the company's development program. He had formerly been an officer of W. R. Grace & Co. in charge of engineering and technical activities.

SYDNEY T. ELLIS

SKF Injunctions Against Imitators

Two St. Louis drug manufacturers, the Shaw Pharmacal Co. and the Professional Drug Service Co., Inc., were restrained by preliminary injunctions last month from making imitation "Dexedrine" and "Benzedrine" tablets. Smith, Kline & French Laboratories recently brought these suits charging unfair competition against Shaw and two employees, Edgar T. Mann and Daryl L. Keith; and Professional Drug and its president, Arthur A. Storck, and as a result the injunctions were issued in the U. S. District Court for the Eastern District of Missouri, pending final determination of the suits.

Named V.P. Lucien Lelong

Ralph Lewis, formerly president of Harriet Hubbard Ayer, has been appointed vice-president and general manager of Lucien Lelong, Inc.

Building New Cellophane Plant

A new modern cellophane plant is being built at Pisgah Forest, N. C., for Olin Industries, Inc., according to John M. Olin, president, and is scheduled for full operation about September of this year. The plant will produce an estimated 33 million pounds of cellophane annually to help relieve the shortage which has existed since the beginning of the second world war.

Johnson & Johnson Expands Facilities

Johnson & Johnson has contracted for the plant facilities of the Texas Textile Mills, according to C. V. Swank, vice-president in charge of manufacturing. The company will produce newly developed and special surgical dressings for both the armed forces and civilian defense forces at the Dallas plant. Approximately $250,000 will be spent to install new electrical and mechanical facilities at the plant to meet the requirements of Johnson & Johnson's manufacturing procedures. The work is expected to be completed in time for actual operations to be started by April 1.

Suzanne Danco on U. S. Concert Tour

Suzanne Danco, Belgian soprano, and sister of Gerard J. Danco, president of Gerard J. Danco Inc., arrived in the United States on February 5 for her first concert tour of North America. Leading member of La Scala Opera of Milan, Miss Danco opened her ten-week tour with a recital in Baltimore on February 9. Also on her schedule are the Chicago Symphony, the Boston Symphony, and the Los Angles Philharmonic. At the close of the coast-to-coast tour Miss Danco will make her only New York appearance of the season with a recital in the Town Hall on April 16.

Becomes Gen. Manager of Ayer

Nelson Millard has been appointed general manager of Harriet Hubbard Ayer, Inc. He had formerly been sales manager of department stores and drugs for Bourjois, Inc.

Moudry Named to Squibb Council

Frank W. Moudry, 1950 president of the N. A. R. D., has been appointed to the Squibb Advisory Council for a four-year term, according to H. J. Towers, E. R. Squibb & Sons Retail Distribution Department manager. The council assists the company in developing customer relations policies.

Rho Pi Phi Conference

An eastern district regional conference of Rho Pi Phi International Pharmaceutical Fraternity was held on March 4 at the Park Sheraton Hotel, New York. A special dinner-dance was held in the evening.

The 27th annual convention of Rho Pi Phi International Pharmaceutical Fraternity will be held from August 19 through 23 at the Laurel Country Club on Sackett Lake in the Catskills.

VINCENT P. BRUNELLI

Promoted by Personal Prods. Corp.

Vincent P. Brunelli has been appointed executive assistant to the president of Personal Products Corp, according to George H. Murphy, president. He joined the company in 1946 as an assistant salesman in the Los Angeles territory and was transferred to New Jersey in 1947.

DCAT Silver Anniversary Dinner

The Drug, Chemical and Allied Trades Section of the New York Board of Trade, Inc., held their 25th annual dinner at the Waldorf Astoria Thursday evening, March 8. The dinner, largest in DCAT history, was attended by 2300 representatives of the drug, chemical, and related industries from all parts of the country. The Honorable Paul W. Shafer, Congressman from Michigan, and principal speaker of the evening, talked on the subject "Time of Decision."

Charles P. Walker, Jr., Chas. Pfizer & Co., Inc., chairman of the DCAT, presided.

Latex to Handle Own Publicity

International Latex Corp., according to W. O. Heinze, president, will handle all public relations for its products and for Playtex Park Research Institute, through the public relations division of the company. The services of Roy Bernard Co., public relations counsel, have been terminated.

To Receive Lascoff Award

Dr. George Urdang, Historian and Director of the American Institute of the History of Pharmacy, has been named 1951 recipient of the Lascoff Award. The award is presented annually to that pharmacist who has contributed most to the advancement of professional pharmacy during the past year. Dr. Urgang the sixth recipient, will formally receive the award at the annual convention of the American College of Apothecaries in Buffalo, New York, in August during the meetings of the American Pharmaceutical Association.

Joins Lueders 25-Year Group

George F. Weber joined the Veterans' Organizations of George Lueders & Co. last month as the 48th member, having just completed 25 years with the company. Mr. Weber is assistant secretary of the company and son of Ferdinand Weber, vice-president and treasurer, who has been with the company 39 years.

Added to Parsons-Plymouth Staff

E. B. Twombly Jr. and Philip D. Reed Jr. have been added to the staff of M. W. Parsons-Plymouth, Inc. as administrative assistants to Herbert Bye, president. They will be associated with Maxwell D. Smart, at present in charge of the company's Stearate plant operations, and with E. C. Schmidt and John P. Donovan in sales.

Addresses Alumni Ass'n

Jacques A. Masson, vice-president of Philip Chaleyer, and director of the Society of American Perfumers, addressed the Greater New York Alumni Association of Delta Tau Delta at the Engineer's Club on February 14. He talked on the production of perfume.

Kleinschmidt Joins Tussy

Ralph Kleinschmidt has been appointed field sales manager of Tussy Cosmetiques, succeeding the late Ralph McRae King. For the past five years he has represented Dana Perfumes in the southwest, and had previously been with Lentheric, Inc.

Named Directors of Pond's Extract

Alfred S. Foote, vice-president of J. P. Morgan & Co., and John F. Betts, treasurer and director of the Lock Joint Pipe Co., have both been elected to the board of directors of Pond's Extract Co.

J. B. Magnus on Lecture Tour

J. B. Magnus, vice-president of Magnus, Mabee & Reynard, Inc., recently concluded a speaking tour throughout the southern and many of the western states. He addressed students of both the Loyola School of Pharmacy and Dillard University on the use of essential oils, and in Texas he talked before the Texas Pest Control Association on Perfume oils, Neutralizers and Deodorants.

J. B. MAGNUS

Dr. Donovick with Squibb

Dr. Richard Donovick has been appointed director of the division of microbiology in the New Brunswick, N. J. research and development laboratories of E. R. Squibb & Sons, according to Roland J. Dahl, vice-president in charge of research and development. Dr. Donovick has published widely in the fields of chemotherapy, antibiotics and viruses.

McKesson Promotions

J. Madden Looney, sales manager of McKesson & Robbins, Inc., became division manager at Cairo, Ill., while Ellis Minton was promoted to division manager at Louisville, Ky. Rudy Jones, formerly division manager at Louisville, was promoted to division manager, St. Louis, succeeding D. W. Dalton who became assistant to the regional vice-president, southwest region.

DPI Moves Chicago Office

Distillation Products Industries, a division of Eastman Kodak Co., has changed the address of its Chicago sales office from 135 S. LaSalle St. to 919 N. Michigan Ave., Chicago 11.

Everett, Ltd. to Represent Lustray

Charles K. Everett, Ltd. has been appointed the New York representative of Lustray Laboratories, Inc., selling private label toiletries to department stores.

Flavor is the thing that makes your product stand out from others. And Exchange Oil of Orange *has* the flavor…that distinctive and preferred taste unique to oranges grown in the sunny, sheltered valleys of California.

Try Exchange Oil of Orange for yourself. Give it all your tests for *quality, uniformity* and *strength.* You'll like it…and you'll buy it!

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Steeves Appointed by Pepsodent

John J. Steeves was appointed national sales manager, drug chains and department stores, for the Pepsodent division of Lever Brothers Co. last month, according to Charles T. Lipscomb, Jr., president. He had formerly been vice-president and sales manager of Ogilvie Sisters-Lee, Inc., and sales manager of Lee Pharmacal Co.

JOHN J. STEEVES

Research Specialist for Nutrilite

Peter L. Shugart, 2574 N. Beachwood Drive, has been retained as research specialist by the attorneys for Nutrilite Mfg. Co., Buena Park, Calif., to prepare research material pertaining to the current Federal Food and Drug Litigation involving that company and their sales organization, Mytinger & Casselberry, Long Beach, Calif.

Parsons Imports Changes Name

M. W. Parsons Imports and Plymouth Organic Laboratories, Inc. has changed its corporate title to M. W. Parsons-Plymouth, Inc. in order to simplify the name. The directorship, officers, staff, management, and service all remain unchanged.

Promoted by Marvin Thompson

Gustave Bardfeld has been appointed director of clinical research by Marvin R. Thompson, Inc. Formerly director of sales and professional relations, he has been with the company five years and had previously been associated with Eli Lilly & Co. for 16 years.

Leeben Buys Interstate Color Co.

The Leeben Chemical Co., Inc. has acquired the business of Interstate Color Co., Inc., according to Leo Benjamin, president of Leeben. Interstate is now known as Interstate Color Co. Inc., division of Leeben Chemical Co., Inc. and is located at 389 Washington St., New York, headquarters of Leeben Chemical Co.

Jeeves Promoted by Parke, Davis

W. R. Jeeves has been promoted to director of overseas operations for Parke, Davis & Co. Foreign sales manager since 1947, Mr. Jeeves will direct the company's activities abroad through branches in Havana, Mexico City, Rio de Janeiro, Buenos Aires, London, Bombay and Sydney, and he will be responsible for the development of business in all countries outside the United States and Canada.

Named Pres. Drug & Chem. Club

Herbert Bye, president of M. W. Parsons-Plymouth, Inc., was elected president of the Drug & Chemical Club, New York, at the meeting of the Board of Governors of the Club held March 1.

Andersen Joins Seaforth

Earl Andersen, formerly of Elmo, Inc., and Lever Brothers, has joined Seaforth as its representative in several southern states, according to Lewis F. Bonham, president of the Alfred D. McKelvy Co.

Felio Promoted by Colgate

Earl N. Felio was elected treasurer and assistant secretary of the Colgate-Palmolive-Peet Co. by the board of directors, according to E. H. Little, president, and assumed the position on March 1. He joined Colgate in 1924 and had been assistant treasurer and general credit manager since 1940.

Elected Director of Merck

George S. Currie of McDonald, Currie & Co., Montreal, has been elected a director of Merck & Co., Inc., according to George W. Merck, chairman of the board. His election increases the number of Merck directors from 11 to 12. Mr. Currie has been a director of Merck & Co. Limited, Canada, since 1949.

Hendriksen with Verley

Arthur L. Hendriksen, long associated with, and well known in, the essential oil and perfume and flavor compound field, is now associated in a sales capacity with Albert Verley & Company, New York.

Cosmetic Representative in Japan

F. M. Planas, vice-president of the Arnny Company, Ltd., 2235, 4-Chome, Kami-Meguro, Meguro-Ku, Tokyo, Japan, is interested in contacting cosmetic firms desiring representation in Japan. Mr. Planas may be reached at the above address.

Stanley Appointed Mgr. 5 Day Labs.

Lee Kenneth Stanley has been appointed Western district manager for 5 Day Laboratories, according to Morris L. Levinson, president of Associated Products, Inc. He had formerly been field sales manager for Phil Kalech Co. and on the sales staff of the Toni Co.

LEE KENNETH STANLEY

Dan Beyer III

Dan A. Beyer, of P. R. Dreyer Inc., has been ill for the past few weeks but announces he will be calling on the trade soon.

Gillis Advanced by Monsanto

John L. Gillis, vice-president of Monsanto Chemical Co. and general manager of its Merrimac division, was named general manager of the company's organic chemicals division, succeeding William G. Krummrich, who died last month. Charles H. Sommer, Jr. has been appointed Merrimac division general manager.

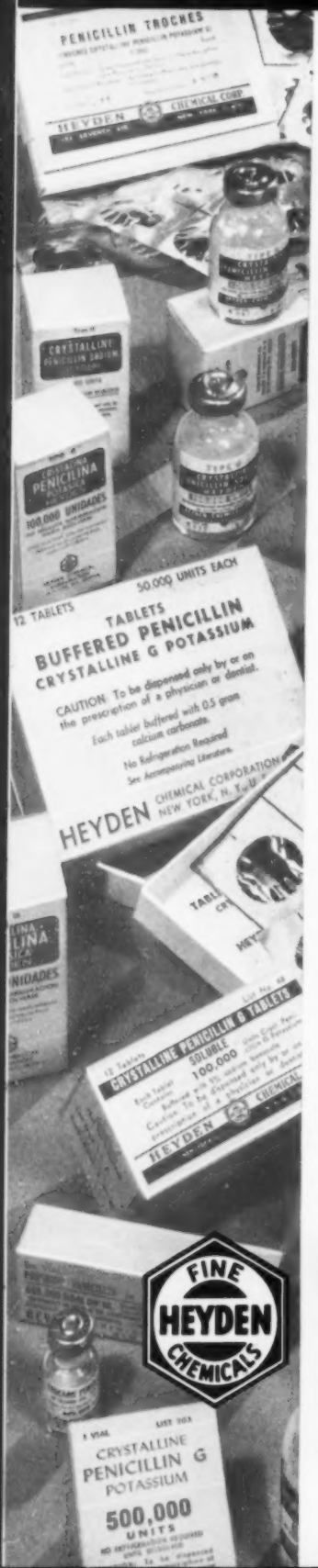
Arner Opens Experimental Plant

The Arner Co. placed its new experimental laboratory in operation on March 1, according to Dr. Niels C. Klendshoj, executive vice-president. The new facilities have been re-designed for the experimental preparation of items which will later be put into large-scale production. The facilities also include complete equipment for the performance of all applicable physical tests.

Florasynth Price List

Florasynth Laboratories has released its 1951 price list which covers an extensive variety of flavoring, aromatic and essential oil materials. The price list is available for distribution through the company's ten offices in this country and its various foreign affiliates in Mexico and Canada.

Standards of Purity and Potency...



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Vials: **Crystalline Penicillin G Potassium or Sodium; Crystalline Procaine Penicillin G in Sesame Oil with 2% Aluminum Monostearate w/v (cartridges, single-and multiple-dose vials) (also available in fortified form).**

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STREPTOMYCIN PRODUCTS

Vials: **Crystalline Dihydrostreptomycin Sulfate (1-gm. and 5-gm.).**

Dihydrostreptomycin Sulfate (1-gm. and 5-gm.).

Streptomycin Sulfate (1-gm. and 5-gm.).

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LAWRENCE F. BLACKWELL

Elected to Pneumatic Scale Board

Lawrence F. Blackwell and Wallace E. Coughlin were elected directors of Pneumatic Scale Corp., Ltd. at the annual meeting of stockholders held at the plant offices in Quincy, Mass., according to Kendall D. Doble, president. Mr. Blackwell joined the organization in 1919 in the engineering department, becoming manager of the bottling division in 1940 and vice-president in charge of production in 1948. Mr. Coughlin was first employed by the company in 1920, and became a vice-president in 1947, heading the New York branch. Last year he was president of Packaging Machinery Manufacturers Institute.

WALLACE E. COUGHLIN

Bell Named V. P. Bourjois

Hugo L. Bell, for many years vice-president of Lehn & Fink, Inc., was elected vice-president of Bourjois, Inc. at a meeting of the board of directors last month. He will also serve as assistant general manager.

E. Raymond Johnson, formerly district sales manager in the southeastern territory, has been appointed sales manager of the company, according to Norman F. Dahl, president.

Plough to Open New Plant

Plough, Inc., Memphis, Tenn., will officially open its new plant in June with a week-long program of open house ceremonies. During the week, the company will play host to members of the press, radio, and television; employees and families; businessmen, druggists from over the United States, and representatives of many foreign countries where its products are distributed; its more than 4,300 stockholders; its suppliers, and the general public from over the Mid-South area. Plant tours will be conducted daily with a number of special events planned for the week.

The plant, located at the city's eastern edge, will house the company's executive offices and approximately 90% of the manufacturing and warehousing operations which formerly occupied nine separate buildings in Memphis. Covering an area of about 250,000 square feet, the building is of steel and brick fireproof construction with all offices, cafeterias, most manufacturing areas, and the research laboratory air-conditioned.

George H. Burnett

George H. Burnett, treasurer of the Joseph Burnett Co., Boston, until his retirement in 1948, died recently in St. Croix, Virgin Islands. He was 66 years old.

John A. Hubsmith

John A. Hubsmith, assistant to the president of van Ameringen-Haebler, Inc., died February 11 in New Rochelle, N.Y. at 47 years of age, following a two-months illness. He served also as liaison between van Ameringen-Haebler, S.A.R.L., France, and the parent company.

William G. Krummrich

William G. Krummrich, 56, vice-president of Monsanto Chemical Co. and general manager of the organic chemicals division, died February 27, having been in ill health for the past year. He joined Monsanto in 1917, working in the laboratory of the John F. Queeny plant in St. Louis. After completing a correspondence course in chemical engineering, he was promoted to a position of assistant plant chemist in 1920, receiving regular promotions thereafter. In 1936 he was transferred to Monsanto, Ill., as manufacturing superintendent and in 1940 promoted to plant manager. Mr. Krummrich became production manager of the organic chemicals division in 1943 and was elected a vice-president in 1949.

He is survived by his wife, Florence M.; son, R. Wayne; his mother, Mrs. Gus Krummrich; his brothers, Irving G., Raymond A., Melvin P., and Herbert J.; and his sisters, Mrs. R. Derby and Mrs. Al C. Horstman.

Henry Michaels

Henry Michaels, 41, a director of McKesson & Robbins, Inc., and son of its former president and chairman, the late Charles F. Michaels, died suddenly February 19, in San Francisco. He had resigned as vice-president and secretary in 1949 and at the time of his death was on the way from his home in Honolulu to attend a directors' meeting.

Mr. Michaels joined the company in the San Francisco division in 1930, successively holding positions as manager of the Oakland division, assistant regional vice-president, western region; assistant to the first vice-president, and regional vice-president. In 1941 he was elected vice-president and secretary and in 1946, a director. He is survived by his wife, Peggie Robbins.

Daniel Fisher Nealon

Daniel Fisher Nealon, since 1924 associated with the National Toilet Company, Paris, Tenn., died January 27 at the age of 55. Born and educated in Chicago, and graduated from the University of Illinois where he majored in chemistry, Mr. Nealon joined the National Toilet Company as chemist, and became vice-president in charge of production.

Mr. Nealon, a member of the official board of the First Methodist Church, was active in all departments of church work. For many years he was a member of the Henry County School Board, and served on the Henry County Draft Board during all of World War II. He was a Mason and Knight Templar.

In 1925, Mr. Nealon married Ann Douglass Swinney, of Paris, who survives. Other survivors are Dan F. Nealon Jr., a daughter, Sarah Ann Nealon, and a grandson, Charles Butler Jr., who is the child of the older daughter, the former Virginia Nealon who died two years ago.

Samuel H. Williams

Samuel H. Williams, 86, honorary chairman of the board of J. B. Williams Co., died February 17 in Winter Park, Fla. In 1886 he joined the company which was founded by his father, J. B. Williams, and became president in 1926, chairman of the board in 1939, and honorary chairman in 1946.

Keeping costs down for Bristol-Myers

Machine Bundling may be the answer to YOUR cost-reduction problem

Anyone who has visited the Bristol-Myers Plant in Hillside, N. J., will agree that it is an outstanding example of manufacturing efficiency.

Consider, for example, the machine illustrated above—one of our Model F-6 bundlers. This machine is fed by conveyor from two lines of tube-filling and cartoning machines. An assembler at the in-feed of the F-6 groups the cartons in two layers of 3 each and the machine then seals them drum-tight in strong kraft paper, attaching printed end-labels. So efficient and economical has machine bundling proved that Bristol-Myers now operate a number of our machines for Ipana, Mum and Sal Hepatica.

Consider these Savings

The moment you adopt machine bundling you make a large saving in material costs—for instead of a cardboard box, you use an inexpensive sheet of paper. This also means a great reduction in weight—lower shipping costs. Also less storage space—a roll of paper which will bundle hundreds of cartons replaces bulky boxes. And with one operator you can turn out up to 24 bundles per minute, depending on size. Our machines are all adjustable for various sizes, and you can group the cartons in dozen or half-dozen lots, assembling them in a manner that will make the most compact bundle.

GET A DEMONSTRATION

We'll be glad to show you how your goods may be bundled on our machines, giving you costs to compare with what you are now paying. Frequently savings are so great that a machine pays for itself in less than a year.

Write or phone our nearest office.

See us at the PACKAGING SHOW
Booth 315, Atlantic City Auditorium, April 17-20

NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS
DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO, D.F.

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS

MANAGEMENT FORUM

By Francis Chilson
INDUSTRIAL CONSULTANT

Instruments in Research

The acceleration of research through the use of industrial and related instruments and apparatus is the subject of an 8½ by 11, 84-page book just published by Brown Instruments Division of Minneapolis-Honeywell Regulator Company. The book describes, for what is believed the first time, many types of equipment which, alone or in combination with other apparatus, are being used in research and analytical studies.

In addition to the importance of the publication as a reference and application guide for researchers and analysts, the book reflects the great strides made in the instruments field since World War II. It also emphasizes how extensively industrial instruments are being used alone or in combination with others for technical, engineering and laboratory work.

The company has given extensive mention to devices, made by many organizations, which are used in combination with its own instruments. It seems that all are definitely accepted and vital components of over-all systems for research and analyses. When packed together these applications, which are understood to be only a part of over-all growth, give an insight into the amazing advances in scientific knowledge obtained through use of modern instrumentation.

The book is replete with known research and analytical instrumentation uses. Under the heading of Analytical Apparatus, the book details the robotized polarograph, titrator and still applications and describes various types of spectrometers. The same section covers continuous gas analyzers. The section on Precision Laboratory Measuring Instruments includes mention of electronic indicators, the Electrometer, pyrometers for measuring low temperatures and radiation pyrometers for measuring temperatures up to 7,000 degrees F. This section also includes information on high vacuum gauges, and pressure and force transducers.

A third section reviews research apparatus components such as converters, balancing motors and servo amplifiers which constitute integral operating parts of research and analytical apparatus.

Limited quantities of each data sheet used in the book, after revising and editing, are being made available by the industrial division for engineering schools, colleges and for research training programs.

The following information is supplied by manufacturers of the equipment described and claims made below by these manufacturers are passed along for what they are worth. Presentation of such notice in this department is not to be taken as endorsement of the claims or of the equipment.

Horizontal Paste Mixer

A new 60 gallon, stainless steel, heavy duty paste mixer, developed by L. O. Koven & Brother, Inc., Jersey City, N. J., will provide a method of supplying paste of uniform consistency, characteristics and temperature under accurate discharging conditions.

The mixer is built with a rectangular mixing tank, having a half round bottom, with inside dimensions of 51″ long, 30″ wide and 18¼″ maximum depth. The tank is jacketed on the round bottom for 36″ of its length for steam heating at 125 p.s.i. working pressure.

A full-length, stainless steel, ribbon type spiral agitator, with inner and outer ribbons having opposite thrusts, assures thorough mixing action. The agitator shaft is driven, through a 4 to 1 reducing chain drive, at approximately 87 r.p.m. by a 2 h.p. gearhead motor mounted on the channel iron base.

The curved cover is hinged for quick and easy access for filling and cleaning purposes. Discharge is made through 1½″ discharge opening, employing a rotary pump driven by a 1½ h.p. gearhead motor. Discharge

MANPOWER SHORTAGE AGAIN SPOTLIGHTS NEED FOR LABOR SAVING MACHINES

LESS HELP; LESS COST FEATURES LABELRITE* ADVANTAGES

If we've really come "full-circle" to the point where help scarcity is going to hamper production, an important factor is going to be conversion of hand labor jobs to automatics or manually operated automatics, so that some employees can be drawn upon for productive effort in other departments.

This is especially applicable to jobs like labeling, where, in many instances, machinery does not do the complete job, and girls are required to "finish". Labelrites which require only ONE operator will again be in great demand. For on Labelrites, only one girl is needed. She feeds containers or products to the machine, and the Labelrite, because of its design, makes it unnecessary to employ a number of girls to "reposition" labels to correct register, or to wipe off excess glue, which beads out from under labels in machines not engineered to deliver ultra-thin films of adhesive.

Irregular and standard shapes of labels are regularly handled on Labelrites.

VACUUM PICK-UP *stops misplacing of labels - - - - -*

In employing a vacuum pick-up method of handling labels from the hopper, and straight-line, continuous delivery of the label to the product, precision labeling is attained *automatically*, by the New Jersey Labelrite.

MICRO-GLUE ADJUSTMENT *prevents excess glue seepage.*

The Labelrite operates on the principle of applying the thinnest possible film of adhesive, so that *no glue* can "bead out" from under the labels when they are applied. Thus this machine saves the need of a repositioner and extra bottle or container "wipers".

The two or more girls used in many plants to do these jobs, are thus available for productive work elsewhere.

UNSKILLED HELP *does an excellent job.*

Since operators of the Labelrite do not have to be skilled, it is easy to attain production capacity, in relation to the ease with which the product can be handled. In most jobs, girls feed the Labelrite with one hand, and remove the labeled product with the other.

The famous Pony Labelrite, with its easily adjustable bottle support, needs only "petty cash" change parts.

For complete details, write for descriptive catalog.

*Reg. U. S. Pat. Off.

510

NEW JERSEY MACHINE Corporation

1550 WILLOW AVE. • HOBOKEN, N. J.

Factory Sales and Service Branches at
Chicago, 325 W. Huron Street
Cincinnati, 1701 Carew Tower
Los Angeles, 2500 W. 6th St.

Manufacturers of fully automatic and manually operated labeling machines utilizing glue or thermoplastic adhesives. Also code numbering and carton opening units.

piping has a swivel joint design, making vat or drum loading fast and simple. Spillage losses are kept to a minimum by the use of two pump "start-stop" and "momentary fill" push button controls. A thermometer is located in the discharge line for checking the temperature of the discharging paste.

The rugged construction, plus the simple but effective agitating mechanism, may recommend itself to producers of many other products requiring quick mixing of pastes or heavy fluids under uniform temperature conditions.

Barnstead Demineralizers

Barnstead engineers report that their Bantam Demineralizer is now equipped with a direct reading meter which indicates water purity. This feature enables anyone to tell the purity of the water at any time and maintain a constant purity check on the flow of demineralized water. For convenience, the instrument is calibrated in parts per million and also in ohms electrical resistance.

Users report that these Barnstead Bantam Demineralizers are ideal for hundreds of industrial operations and applications requiring relatively small amounts of demineralized water. Bulletins on Barnstead Bantam Demineralizer may be obtained from Barnstead Still & Sterilizer Co., 2 Lanesville Terrace, Forest Hills, Boston 31, Mass., or from laboratory supply dealers who also stock the replacement high capacity cartridges.

Lift Truck

Designed and engineered especially to cut working time, the only aluminum single-unit oil tank and pump combination enables the new Marforge Lightning Load-Lift to raise loads 25 per cent easier and 25 per cent faster.

Borg-Warner and Market Forge engineers cooperated in the development of this "super-hydraulic" pump. The hydraulic fluid is contained in the unit above the dual pumps. This allows the fluid to circulate by gravity, rather than being sucked up into the pump from a separate tank underneath. "Aeronautic" design and machine tolerances are also responsible for the increased efficiency of the "Lightning-Lift."

Radical also is the new design by which the truck is lowered by a simple right-angle flick of the handle. This innovation completely eliminates stooping or bending to lower the loads. The truck raises and lowers with the same lifting handle while the operator stands. He does not need to bend at any time. This new one-unit pump also eliminates the need for gaskets, dust boot and needle-type valve. It fits interchangeably into all standard Load-Lifts and may be purchased as a separate unit.

The New 1951 Lightning Load-Lift is equipped with this heavy-duty, labor-saving pump as well as with self-sealed ball-bearings, greased for life, and set in steel, cushion rubber, or plastic wheels to assure easier, faster rolling over uneven floors and obstructions. A double ball-bearing fifth wheel allows the Load-Lift to steer easily with any handle position, and to get into narrow aisles. As in the standard models, there is no danger from a flying handle. The lifting and lowering mechanism is completely separate from the pulling handle. Modern arc-welded frame construction with smooth, rounded corner and edges gives streamlined simplicity and safety. All Marforge Load-Lifts are guaranteed for 20 per cent overloads.

Market Forge will continue to manufacture their well-known "standard" model which is somewhat lower in price.

Tablet Press

A new bench-type tablet press with many uses to which a standard volume-production type of tablet press is not economically adapted is announced by Arthur Colton Company, Division Snyder Tool & Engineering Company, 3400 E. Lafayette Ave., Detroit 7, Michigan.

The new press, known as the Colton No. 301, is available in two models, one for manual operation and the other for motor operation, and is particularly suitable for laboratory work in colleges and private laboratories in experimental and research work. It is also suitable for limited production work in tableting private formulas.

Tablets produced on this press are in every way comparable to those produced on regular, large production tablet presses, and manufacturers and their laboratories will find in this inexpensive machine a practical and economical means of handling experimental runs without taking large presses out of production for the purpose.

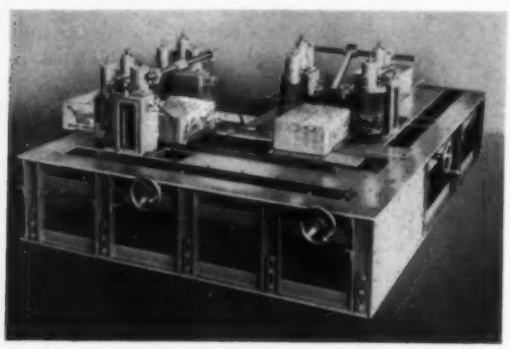
Maximum depth of fill is 7/16"; maximum diameter of piece ½"; maximum pressure from above, 1½ tons. Maximum tablet production per minute is 87 and minimum 32. The motor operated model has variable speed pulley drive and hopper is standard equipment.

Hopper is optional extra on hand operated model.

The press is simple in design and operation and easy to clean and to change over to different tablet sizes. It is instantly adjustable for weight and hardness of tablets.

Case Printer

A new machine that automatically prints complete display designs on all four sides of corrugated, fibre and wood shipping cases at the point of packing has been introduced by Adolph Gottscho, Inc., makers of package printing and code-dating machines. The new machine, called the Markoprinter (Markocoder Model #3M-18-4E), is designed to make it practical for companies with varied product lines to print their own



cases as they use them instead of maintaining large inventories of pre-printed cases for each different product and size, or of risking interruption of production schedules as a result of case supply shortages.

Said to be the first packaging-line machine that prints large display copy—including trade-marks and all-over designs—with sharp, uniform, "printing press" quality of reproduction, the Markoprinter is placed in a production line following an automatic case sealer or packing station. The machine automatically receives loaded cases . . . separates them for registration . . . prints from one to four side panels (and top, too, if required) . . . discharges them to the next operation—all in a single pass, at production rates up to 2000 cases an hour. Since the Markoprinter incorporates its own timing and re-spacing mechanism, the speed, frequency or spacing between incoming cases is immaterial. Nor is it necessary for cases to be sealed before reaching the Markoprinter, a feature that permits the machine to be installed at any of several points in the packaging line.

Print quality produced by the Markoprinter is reported to be clean and crisp, equal at least in quality to pre-printed cases. Printing is accomplished by means of deep-cut rubber dies mounted on rotary die-wheels. Rotation of die-wheels is synchronized with package travel through the machine to assure accurate register. "Kiss" contact between die and case surface, together with a control mechanism that compensates for dimensional and surface variation between cases, enable the machine to deliver prints of consistent intensity throughout a run.

The Markoprinter inking system is identical with that of large aniline printing presses. It provides both for constant recirculation of the ink supply and for metering a precisely measured film of ink to the surface of the printing die. The ink supply in the Markoprinter reservoir may be replenished without interrupting the machine's operation.

Each Markoprinter is built to meet the individual user's special requirements, particularly in regard to its adjustability for handling cases of various sizes. However, a typical machine has a range of case sizes from 3" x 6¼" x 6½" min. to 10" x 15" x 18" max., and occupies floor space of 92" x 63". Changeover time from one case size to another is said to be a matter of minutes, requiring adjustment of only two exposed handwheels. Copy changeover, too, is quick and easy. This is done either by replacing adhesive-backed dies on the die-wheel or completely substituting one interchangeable die-wheel for another.

Additional information about the Markoprinter may be obtained from the manufacturer, Adolph Gottscho, Inc., Hillside 5, New Jersey.

Syntron Semi-Noisless Electric Vibrators

Syntron Company, 570 Lexington Avenue, Homer City, Pa. announces the addition to its line of bin, hopper and chute Vibrators, of Semi-Noiseless Models of the larger sizes.

These new Semi-Noiseless Vibrators perform the same function as the standard models, with a sharp reduction in the operating noise, making them especially useful on interior bins, hoppers and chutes where large numbers of employees are working. The reduction in operating noise is due to a design change in which the metallic striking parts have been eliminated and rubber bumpers substituted therefore.

The new Semi-Noiseless Vibrators are available in four models, with capacities ranging for use on small hoppers containing as little as 20 cubic feet of material up to on Bunkers holding hundreds of tons for operation from 110 volt, or 220 volt, or 44 volt, A.C.

They are all furnished with the Syntron Variable Vibration Controller by means of which the intensity of vibration can be regulated to suit the material being handled.

Additional information is available from the manufacturer.

Acid Pouring Spout

New GS No. 11 Carboy Tilter with pouring spout assures a safer, faster and easier method of pouring acids and other liquids from carboys.

The soundly functional design of this unit saves time, effort, and materials by its quick, easy action and advanced safety features. Long and dependable service is assured by structural steel supporting members with welded and riveted construction.

The Air Vent pouring spout offers a smooth flow of acid without spurts or splashes. Made of Acid

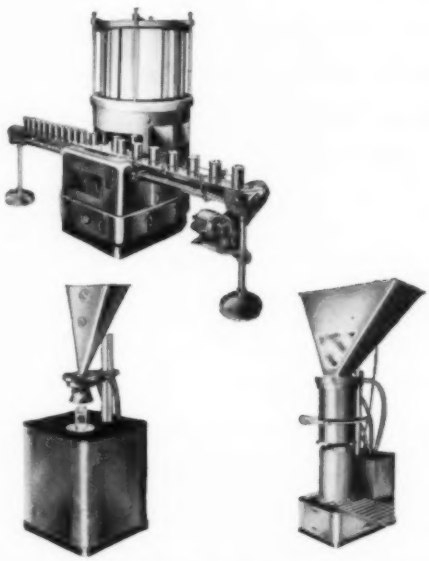
CLEAR THE AIR

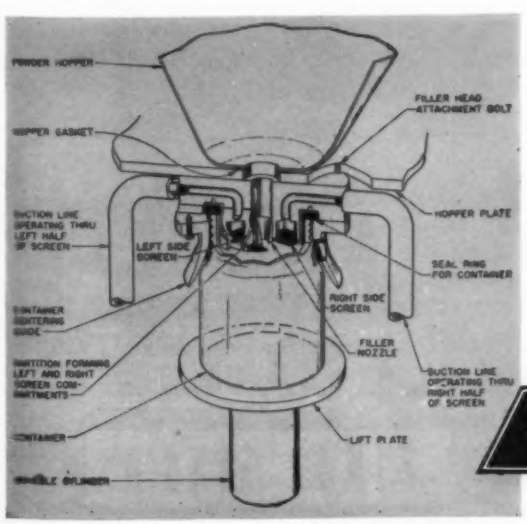
with

VACUFLOW

Dustless POWDER FILLERS

Cut Product Wastage
Obtain Accurate Uniform Fill
Cut Cleaning Costs





Pneumatic, a leading manufacturer in the packaging field since 1895, now offers a complete line of powder filling equipment — machines operating on a new principle of vacuum feeding, instead of pressure to pack the powder into its container.

Here's how Vacuflow works: Air is removed from the container to create a vacuum, which draws a measured quantity of powder from the hopper. Uniform fill is assured by regulating the powder's density with a predetermined degree of vacuum. This unique method eliminates dust because it simply does not involve air currents that *cause* dust.

Units are available to handle every powder filling requirement. This includes semi-automatic models for filling containers ranging from a tiny powder box up to 200 pound drums and multiple head rotary models for automatic handling of 5 pound sizes or less, at speeds of 45 to 300 per minute. Pneumatic invites your inquiry.

PNEUMATIC SCALE CORP., LTD., 79 Newport Avenue, Quincy 71, Massachusetts. Branch Offices in New York; Chicago; San Francisco; Los Angeles; Seattle.

PNEUMATIC
LOWER COST PER CONTAINER

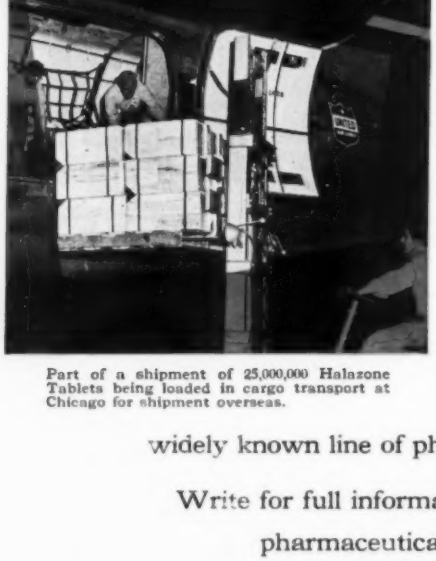
PACKAGING AND BOTTLING MACHINERY

Front Line for Health!

A few of the Stokes Rotary Tabletting machines at Abbott Laboratories, North Chicago, Illinois.

Front lines of war or flood, fire or hurricane, depend on production lines for strength, resistance, and restoration.

Abbott Laboratories depends on Stokes equipment for production of many pharmaceuticals including Halazone, the Army's reliance for safe drinking water.



Part of a shipment of 25,000,000 Halazone Tablets being loaded in cargo transport at Chicago for shipment overseas.

Among many Abbott products, Halazone—of which Abbott is the country's leading producer—makes special demands upon reliability in production because of its truly vital importance in the control of drinking-water contamination.

Dependability is a primary need on pharmaceutical and biological production lines. Stokes tabletting presses, grinders and granulators, freeze-drying equipment, tube-filling and sealing machines are among the production tools for Abbott's widely known line of pharmaceuticals.

Write for full information on Stokes pharmaceutical equipment or send for Catalog.

STOKES

STOKES MAKES

Plastics Molding Presses,
Industrial Tabletting
and Powder Metal Presses,
Pharmaceutical Equipment,
Vacuum Processing Equipment,
High Vacuum Pumps and Gages,
Special Machinery

F. J. STOKES MACHINE COMPANY, 5932 TABOR ROAD, PHILADELPHIA 20, PA.

resistant rubber and plastic tubing for extra long life, the spout has a flow capacity of five gallons per minute.

GS No. 11 Carboy Tilter with air vent pouring spout is $24.95 complete. For trial order or further information, write to General Scientific Equipment Co., 2700 W. Huntingdon Street, Philadelphia 32, Pa.

Ross Change Can Mixer

A new Change Tank Mixer, #131-AB, designed for thinning-down, shading and tinting various size batches of material from 80 to 250 gallons, is announced by Charles Ross & Son Company, Brooklyn, N. Y.

The mixer features simple, yet sturdy construction, and is offered in the low price range. An explosion proof motor is standard in either 3 or 5 H.P. sizes and is directly connected to the stirrer shaft, making a compact unit.

This arrangement is designed to operate in a minimum of headroom and eliminates chain drives and gears, minimizing the range of breakdown possibilities. The direct power-to-stirrer arrangement, with improved stirred design, is reported to give a homogeneous mix in minimum time. The mixer is said to be extremely quiet in operation.

Two speed motors and tank covers are optional features.

Tube Filler

For many years Colton No. 17 Automatic Tube Filler has been the most widely used machine of its kind throughout the food and pharmaceutical industry. This machine has now been superseded by the Colton No. 175 Automatic Tube Filler and Closer, it is announced by Arthur Colton Company, Division Snyder Tool & Engineering Company, 3400 E. Lafayette Ave., Detroit 7, Michigan.

Introduction of the No. 175 climaxes a long period of development work which has been successful in achieving new standards in speed, precision and economy in filling tubes with creams, pastes, powders and liquids. Efficiency of No. 175 is such that it is unapproached by that of any other tube filler.

The automatic work cycle, starting after the tubes are placed in vertically mounted tube holders, moves the tubes to a filling head where they are filled from the bottom up (to prevent air in pockets) with an exactly metered quantity of material from a 15 gallon hopper. Tubes then pass to the closing and crimping stations which produce the quadruple fold Colton Clipless Closure. The entire operation is so clean that it is unnecessary to wipe the tubes before packing. Code marking jaws are supplied on request at no extra cost.

The range of tube sizes that may be filled on Standard Single, Standard Twin, Special Single, and Special Twin models covers practically every tube filling requirement. Standard Single has capacity per minute of 55 tubes, ½″ to 1½″ diameter by 7¼″ long. Standard cylinder capacity is 7 fluid ounces. The machine is powered by 1 H.P. motor. Standard Twin has capacity per minute of 85 tubes up to ¾″ diameter by 7¼″ long.

All parts are easily accessible for cleaning and adjustment and for changeover to different size tubes. Operation is safe and simple and well within the ability of the average available operator.

Optional equipment available as extras include tube cleaning equipment which cleans the tube by air and vacuum, cap tightening equipment, and a "no-tube-no-fill" attachment. For heavy materials that tend to settle, the hopper may be equipped with a mechanical agitator, power operated; and for materials that tend to solidify, the hopper may be equipped with a heater adjustable to the temperature required to maintain uniform flow.

New Tablet Tester

The Vanderkamp Tablet Disintegration Tester—designed to measure accurately the disintegration rate of tableted medicinals or other products—is now available from The Panray Corporation, New York, N. Y.

While the apparatus suggested by Stoll and Gershberg (Journ. Amer. Pharm. Assn., September 1946) contained strings, pulleys, variable speed motors and other complications, the new Vanderkamp Tablet Disintegration Tester is a compact, carefully designed instrument that meets or exceeds every specification of U.S.P. XIV and N.F. IX. It has a special steel-geared reduction motor and an eccentric cam which moves the basket-rack assembly up and down in the

water bath at the fixed speed of 30 cycles per minute. The testing assembly of Plexiglas and stainless steel (identical to the original Stoll-Gershberg design)instead of being suspended by string or wire, hangs rigidly from a notched arm at a height allowing clearance of a 12″ water bath.

The basket-rack holds six open-end Pyrex glass tubes uniformly spaced and resting against a stainless steel

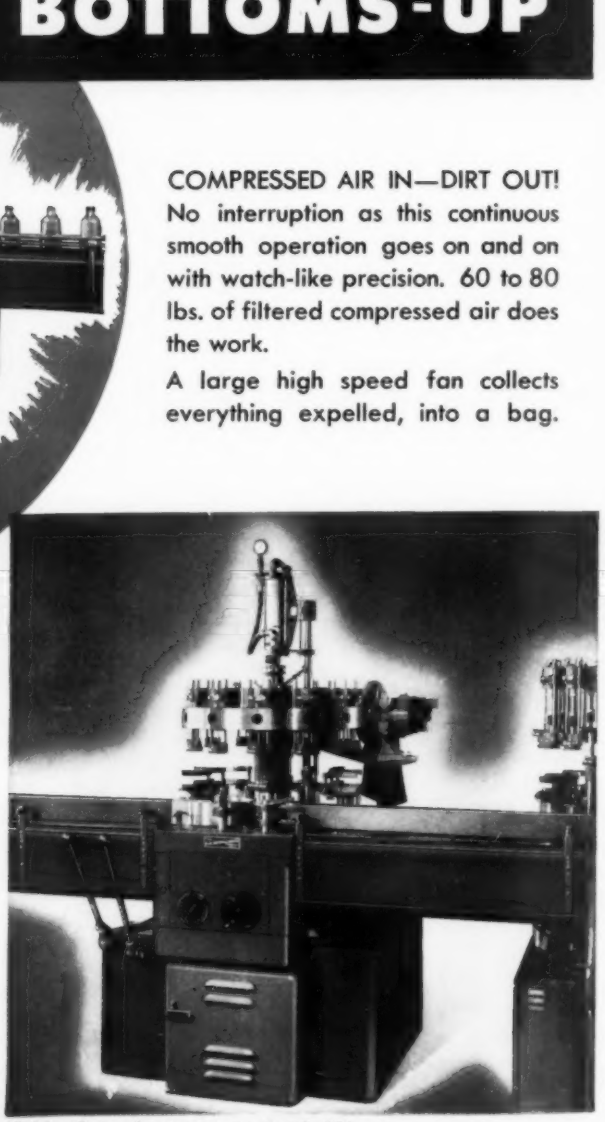
WANT TO CLEAN BOTTLES *CLEAN?*

KIEFER BOTTOMS-UP

COMPRESSED AIR IN—DIRT OUT! No interruption as this continuous smooth operation goes on and on with watch-like precision. 60 to 80 lbs. of filtered compressed air does the work.

A large high speed fan collects everything expelled, into a bag.

QUICK, THOROUGH RESULTS, TOO
when you use the
KIEFER ROTARY AIR CLEANER



Cleans bottles while the containers are upright, and we mean that it does clean. Selected by many food plants, pharmaceutical manufacturers, and bottlers of liquor, packagers of cosmetics, because of its proved reliability.

Completely automatic, semi-automatic, hand-fed equipment to clean, fill, close, convey jars, bottles, tins, collapsible tubes.

Filters ● Pumps

If in Atlantic City for Exposition, Apr. 17-20, please do stop at our Booth 256.

The Karl Kiefer Machine Co.

CINCINNATI, U. S. A.

NEW YORK · BOSTON · CHICAGO · BALTIMORE · SAN FRANCISCO · SEATTLE · SAVANNAH · LOS ANGELES · LONDON, ENGLAND

screen. A socket for a thermometer is also provided.

To use the tester, six tablets are selected at random from the sample and placed one in each of the tubes. The basket is then set in motion so that the bottom of the basket rack remains at least 2.5 cm. below the surface of the water bath. The condition of the tablets may be observed at any time during the test period. If no residue remains on the screen the tablets are completely disintegrated.

The Vanderkamp Tablet Disintegration Tester comes ready for operation and works from a 110 volt, 60 cycle A.C. power supply. Besides tablet testing the apparatus may be adapted for such purposes as determining the dissolving rate for soaps, rusting tests of metals, and many others. Additional information may be had by writing The Panray Corporation, 340 Canal Street, N. Y. 13, N. Y.

Incompatible Material Packer

A trip to the beauty parlor is in store for makers of powders, tablets, and other products requiring unit packaging or moisture vapor protection.

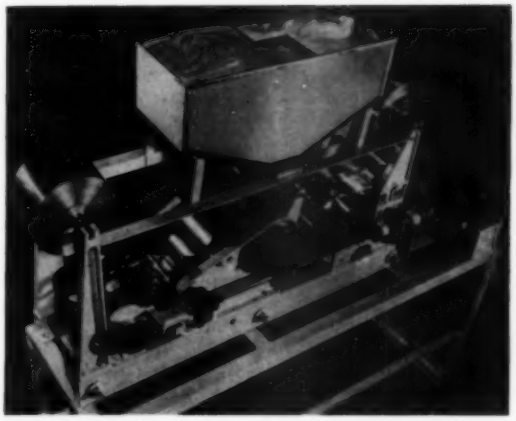
Features of the new package include air-tight product protection, extreme accuracy of fill and unusually low production costs. These, in turn, can be traced to the machine which produces it. Called the HECO-Packer, this machine was invented in 1947 by George Holmes, president of the firm which manufactures it—the Holmes Equipment Corporation of South San Francisco, Calif.

Basic materials of the package are two roll-fed ribbons of heat-sealing aluminum foil. From these, the HECO-Packer prints, forms, fills and hermetically seals the package in one continuous, automatic operation. The resulting container is, in effect, a flexible foil "sandwich," with the product contained in as many separate, heat-sealed unit cavities as desired.

Though developed in this country, HECO-Packers found their first use in the humid Far East, producing moisture-proof, single-dose medicine packets. They entered the American scene, via the beauty parlor, when chosen recently to package the neutralizer component of the wave lotion kits made by Willat Production Company.

Willat Neutralizer consists of two chemicals which must be kept away from moisture—and each other—until they are mixed with water by the beauty operator. Formerly these chemicals were laboriously weighed and packaged in separate plastic bags, which were then packed into the shelf carton along with other components. According to its president, A. F. Willat: "Moisture absorption, bag breakage and slow production under the old method convinced us we had to improve this phase of our packaging, regardless of cost.

"Now," Mr. Willat states, "we know our neutralizer will remain effective no matter how long it is stored. We no longer have a shelf stock rotation or replacement problem, and our production speed has quadrupled. In addition to solving all these problems, the new packaging method has proven much less expensive."



Willat's new foil package is actually a two-in-one container; both neutralizer chemicals are held separately in different portions of the packet. To do this, Holmes engineers tailored the packaging machine to the product. The master roller die—which forms the carefully computed unit cavities in the foil sheet—and other attachments were planned for two product cavities. A divided hopper and filling system was also designed. Thanks to these adaptations, the HECO-Packer used by Willat can package both neutralizer chemicals in a single package at the same time. Instructions for mixing the neutralizer—which lets beauty operators use the wave lotion without rubber gloves—are printed on the foil package as it is formed by a special attachment on the machine.

Where powder dosages are concerned, as in the Willat package, Holmes officials say their machine will control accuracy of fill to a tolerance of 1 per cent in exact volume or weight. Similar accuracy can be maintained through magazine-feeds for non-free-flowing products, such as tablets. Another feature of the HECO-Packer is that it can be used with one roll of foil and another roll of transparent film, such as Pliofilm, heat-sealling cellophane or polyethylene.

Box Gluer

A new platform box gluer, made by Potdevin Machine Co., can apply a coating of adhesive to platform style boxes up to 3 inches high. The box section is fed through the gluer which applies an even coating of adhesive over the entire surface. The operator then places the glued piece on the platform.

Adhesive is placed in a removable stainless steel tank and kept at the correct workable temperature with a thermostatic control. Coating thicknesses are accurately regulated with a coating adjustment control. Thorough adhesive coverage is accomplished by a ductor roller that applies the right amount of glue over the entire area.

Continuous operation is maintained with a ⅓ H.P. 110 volt, A.C. motor. Over-all dimensions: 32″ deep, 10½″ long, 11½″ high. Manufactured in 3 sizes, 6, 8 and 12 inch widths, by Potdevin Machine Co., 1285 38th Street, Brooklyn, New York.

PATENT THOUGHTS AND TRENDS

*by Thomas Cifelli, Jr., Patent Attorney**

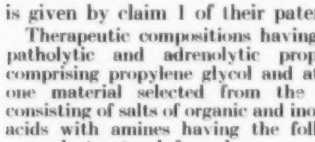
Pioneer Sympatholytic Invention

The trail-blazers in the field of sympatholytic agents involving the so-called "nitrogen mustards" were recently rewarded with U. S. Patent 2,537,988. The inventors, Drs. Louis S. Goodman and Mark Nickerson, of the University of Utah Medical School first published their findings in this field in 1945. Their work was so outstanding that there was an immediate surge of interest in the field, as evidenced by later publications. Dr. Nickerson won the annual John J. Abel prize in Pharmacology for 1949, awarded by the Society for Pharmacology and Experimental Therapeutics for his work in the field.

A somewhat detailed account of just what sympatholytic agents do and how they operate was given in the Feburary 1950 issue of This Journal. For present purposes, it is only necessary to say that these agents have the ability to block the pressor effects of epinephrine and therefore are indicated for the treatment of peripheral vascular diseases and neurogenic hypertension.

An indication of the coverage obtained by Drs. Goodman and Nickerson is given by claim 1 of their patent:

Therapeutic compositions having sympatholytic and adrenolytic properties, comprising propylene glycol and at least one material selected from the group consisting of salts of organic and inorganic acids with amines having the following general structural formula:



wherein R_1 is a member selected from the group consisting of H and CH_3, R_2 is a member selected from the group consisting of H, alkyl, aryl, aralkyl and halosalkyl radicals, R_3 is a member selected from the group consisting of H and CH_3, and X is an halogen selected from the group consisting of chlorine and bromine; and quaternary ammonium salts of said amines.

The patent was assigned to Burton T. Bush, Inc. (the former name of Givaudan-Delawanna, Inc.). Perhaps the best known sympatholytic agent covered by the patent is the one to which the trade-mark "Dibenamine" has been assigned.

*Gaylor, Cifelli & Jurick Newark, N. J.

Patented Skin Preparations—III

This review was begun in the November 1950 issue of This Journal and continued in last month's issue. As stated before, the patents covered by this review deal with skin preparations of more general application than the cosmetic creams and lotions treated in previous reviews. Further, while this review deals with all of the patents classified by the U. S. Patent Office in class 167, sub-class 90, it should not be considered to be complete.

U. S. P. 2,131,235—issued September 27, 1938 to James W. H. Randall and H. Van Grunenberg.

Deodorants for perspiratory secretions in general and menstrual secretions in particular are suggested by this patent. The idea is to combine weak aromatic acids with hexamethylene tetramine to form an addition product, and to provide a stabilizer, such as para-hydroxybenzoic methyl ester, for the addition product.

The aromatic acids alone are not water souble and some of them are somewhat corrosive. For this reason the hexamethylene tetramine is added to overcome these handicaps. Since the resulting addition product is somewhat unstable and readily dissociated, the stabilizer is added.

Claim 1 indicates the scope of protection:

In a deodorizing composition for menstrual and other secretions of the human body an active aromatic acid of phenolic character, hexamethylene-tetramine and a non-corrosive phenolic stabilizing material capable of preventing premature dissociation of said addition product, said hexamethylene-tetramine being combined at least in part with said acid in the form of a loose addition product.

U. S. P. 2,134,947—issued November 1, 1938 to Samuel Isermann and Ernst Ohlsson and John W. Orelup.

See also U. S. 2,102,712 (February 1950 issue of This Journal)

As filters for ultra-violet radiation in the region between 2900 and 4500 Angstrom units, Isermann et al suggest the use of compounds consisting of 2 benzene rings connected by chains containing one or more unsaturated bonds with hydroxy or oxo groups. These compounds are obtained by condensing an aromatic aldehyde with an aromatic ketone or by condensing two moles of an aromatic aldehyde with one mole of an aliphatic ketone. Also suggested are those compounds consisting of two benzene rings connected by chains of at least three carbon atoms having one or more unsaturated bonds therein, but without hydroxy or oxo groups. Examples of the suggested compounds are cinnamal acetophenone, dibenzal acetone, and dibenzyl butadiene.

Protection is limited to the use of cinnamal acetophenone and dibenzal acetone, as indicated by the broadest claim, number 3, which follows:

A cosmetic effective in thin films to retard absorption of light of short wave length containing as an active ingredient a compound selected from the following group: cinnamal acetophenone and dibenzal acetone, in a vehicle capable of application to the skin, said active ingredient being present in an amount not substantially greater than 1 per cent and being characterized by relative permanency, non-irritation and substantial lack of color and odor.

U. S. P. 2,145,983—issued January 31, 1939 to Grace W. Carlson and assigned to Victor H. Roehrich.

A combination underarm shaving cream-deodorizing composition is the subject of this patent. According to the inventor, her product makes it unnecessary to wait a day or so after shaving under the arms before applying astringents. Her product gives simultaneous antisudorific and shaving action.

The method of making the shaving-deodorizing preparation involves producing a water emulsion of fatty materials having a minimum of soluble soaps capable of producing insoluble soaps and preferably of such character as to be readily hydrated, using stabilizing protective colloids or emulsifying agents capable of functioning in the presence of astringent styptic compounds, then adding such astringents or styptics

in considerable amounts so that the mixture will be effective in checking perspiration, adding additional deodorants and perfumes as desired and mixing very intimately to produce a smooth textured cream, heavy enough not to drip from the finger tips and suitable for the purpose.

The recommended astringents are soluble aluminum, zinc, bismuth and tin and similar normal, basic and acid salts which have astringent properties, are non-staining and not toxic. The acid radicals may be inorganic, organic or compound organic-inorganic as ethyl sulphuric, glyceryl phosphoric, with the same or different radicals combined with the metal.

An example taken from the patent follows:

Disperse five to ten parts of purified bentonite, aluminum silicate and aluminum hydrate in forty parts of water with proper precautions to avoid grit or lumps, heat and pour in one or two parts of gum mastic or similar gum melted with thirty parts of spermaceti, white beeswax and other waxes and fats, stir, adding one part of ammonia water and stir while cooling until a thick emulsion results. When cooled add one part of alcohol and then ten parts of zinc sulphate or other zinc salts dissolved in about twenty parts of water. One-half part hydrastine hydrochloride may also be added. The cream must be thoroughly mixed or ground until smooth and perfume oils may be added.

Claim 2 appears to offer the broadest protection:

An antisudorific cream comprising a cream base, a powerfully astringent metallic salt mixed intimately therein, and a protective colloid to prevent the astringent salt from breaking down the cream base.

U. S. P. 2,151,241—issued March 21, 1939 to Fritz Sommer et. al., assigned to Chemische Fabrik Grunau, Landshoff & Meyer A. G.

This deals with the same subject matter as U. S. 2,100,090 (see last month's issue of This Journal) and merely has to do with purifying the products of U. S. 2,100,090.

Claim 1 indicates the purification procedure and scope of protection:

A process for improving the properties of condensation products of high molecular splitoff products of albumin of the type of lysalbinic and protalbinic acids with higher fatty acids for use in cosmetic products which comprises purifying said condensation products by precipitating the concentrated aqueous solutions of their alkali metal salts by adding a strong acid.

U. S. P. 2,170,185—issued August 22, 1939 to Marion S. Carpenter, assigned to Givaudan-Delawanna, Inc.

The use of menthyl anthranilate in sun tan creams and lotions is disclosed by this patent. Carpenter states that the absorptive capacity of menthyl anthranilate for the actinic rays of sunlight is at least three times as great as that of compounds such as menthyl salicylate. Claims 1 and 7 indicate the scope of protection:

1. Process of preparing menthyl anthranilate which comprises reacting a menthol solution of an alkali metal mentholate with an ester of anthranilic acid having a boiling point lower than that of menthyl anthranilate or menthol.
7. A cosmetic preparation comprising a composition containing the menthyl ester of anthranilic acid.

U. S. P. 2,175,213—issued Oct. 10, 1939 to Charles L. Parsons, assigned to Henry C. Parker.

The use of flesh-colored, flaked, light-metal powders is suggested for preventing sunburn.

The idea here is to diminish the total intensity of the exposure to the sun without altering the quality of the light to which the skin is exposed. In other words, the principle of prior sunburn preventives, was to filter out the actinic rays in the 3000-3500 Angstrom unit band. Parsons however suggests cutting down on the amount of the sun's rays which actually touch the skin without however filtering out any of the rays.

It is claimed that the use of the flaked powders will enable anyone to stay out in the sun all day long without acquiring any sunburn at all. Indeed it is said that a person can actually withstand the heat better when using Parsons' preparation. Anticipating a possible objection to his preparation, Parsons states that it does not appreciably affect the "breathing" of the skin or the evaporation of moisture from the skin.

Any lightweight metal which is capable of being made into a flaked powder is said to be useful. Metals which can be dyed, such as aluminum, magnesium and zinc, are preferred. Dyes can be used when it is desired to produce a flesh color or suntan color preparation.

Claim 1 indicates the scope of protection:

A cosmetic composition for preventing or reducing sunburn which comprises a vehicle having a substantially flesh-colored flaked, lightweight metal powder dispersed therein.

U. S. P. 2,185,255—issued Jan. 2, 1940 to Hugo Kroper et al, assigned to Chemische Fabrik Promonta G.m.b.H.

Substances having styptic or hemostatic properties are incorporated in shaving preparations without adversely affecting the lathering power of the latter. The styptic materials are made from soybeans by fractionating the lipoid soluble substances obtained from the soybeans. The whole trick centers around the fractionation procedure, the idea being to eliminate from the lipoid soluble subtances those components which do not act as styptics, as otherwise it would be necessary to add so much of these lipoid soluble substances to the shaving preparation that the lathering power of the latter would be adversely affected.

The patent gives details on the fractionation procedure and points out that fractionation is continued until a preparation is obtained, 0.1 cc of a 1 per cent solution of which will coagulate 1 cc of rabbit blood which has previously been admixed with hirudin in the ratio of 1-7500, after one hour.

Claim 1 is illustrative:

A saponaceous shaving preparation containing a hemostatic lipoid-soluble substance which has been derived from soybeans by dissolving constituents of the soy-beans in a water-immiscible fat solvent from the group consisting of petroleum ether, ether, benzine and benzol, adding a water-miscible fat solvent from the group consisting of ethyl alcohol and acetone to the solution, and recovering the lipoid-soluble substance from the resulting materials.

U. S. P. 2,192,907—issued March 12, 1940 to Benjamin R. Harris.

Cosmetic preparations of different types are said to be improved by substituting certain chemical compounds for soap or the like. These chemical compounds are the esters of certain aliphatic polyhydric alcohols with higher molecular weight aliphatic acids and preferably water-soluble aliphatic polycarboxylic acids, especially hydroxy holycarboxylic acids. These are for the most part stable in the presence of acids and alkaline materials and may therefore be employed in cosmetic preparations irrespective of the pH.

Claim 1 is illustrative:

A cosmetic preparation containing a proportion of a chemical compound in the form of a lyophillic higher molecular weight aliphatic acid ester of an ester of an aliphatic polyhydroxyl substance with an aliphatic polycarboxylic acid.

U. S. P. 2,210,013—issued Aug. 6, 1940 to W. Kedzie Teller, assigned to The Pharme-Craft Corp.

Basic aluminum formate is suggested as an inhibitor of the corrosive effect of astringents such as acid-reacting salts of a polyvalent metal. Such astringents include aluminum chloride, zinc chloride, sodium nitrate, aluminum nitrate, aluminum sulfate and alum.

Claim 1 is illustrative:

An astringent perspiration-inhibiting composition containing an astringent material comprising an acid-reacting inorganic salt of a polyvalent metal and a corrosion inhibiting proportion of basic aluminum formate.

(*To be continued*)

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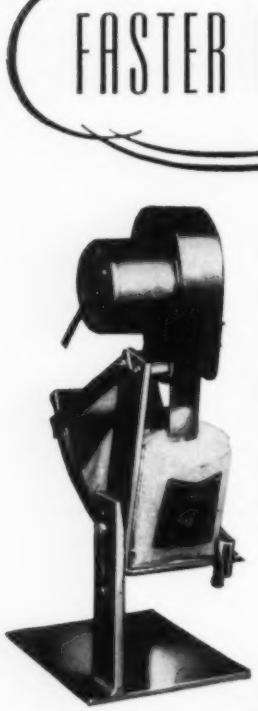

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Quoting Scientific Publications

(*Continued from page 317*)

Recent decisions have held that a copyright may be obtained for advertisements.[5] Thus, advertising material, whether for dissemination to the general public or for limited distribution to physicians, may be protected. Such protection may be easily obtained by complying with the requirements of the statute.

The principal copyright problem of the pharmaceutical manufacturer, therefore, arises from the use of quotations from medical journals in advertising leaflets distributed to physicians. It has often been said, that the practicing physician is more impressed with the clinical findings and reports of other physicians than he is with anything the manufacturer says about his product. There is also the saying that it is as hard to get a doctor to throw away a reprint from a medical journal as it is to get him to save a direct mail folder. The use of medical journal reprints, quotations from medical journals and other scientific publications has therefore become a common technique in the advertising of pharmaceutical drugs. The question thus presented is: To what extent do such quotations and reprints infringe the copyright of the author?

Reprints are easy. Section one of the Copyright Act gives the author the *exclusive* right "To print, reprint, publish, copy and vend the copyrighted work." It is therefore clear that no copyrighted article may be copied or reprinted without the express consent of the copyright owner.

Quotations from scientific publications occupy a unique position in the copyright law under the doctrine of "fair use." This doctrine is defined as the right of others to use copyrighted material in a reasonable manner without the consent of the copyright owner. Fair use is technically an infringement of copyright but is allowed by the law where it is reasonable and customary.[6]

In applying the fair use doctrine, the courts have recognized that the object of scientific publications is to communicate to the world the valuable knowledge they contain. This is particularly true in the medical field. Research workers promptly publish their findings in order that other workers in the field may profit by their discoveries. Scientific facts belong to the world and as one court has said:

> ". . . the law permits those working in a field of science or art to make use of ideas, opinions, or theories and in certain cases even the exact words contained in a copyrighted book in that field . . . This is permitted in order . . . that the world may not be deprived of improvements, nor the progress of the arts be retarded. In such cases the law implies the consent of the copyright owner to a fair use of his publication for the advancement of the science or art."[7]

What constitutes a fair use of a scientific article depends on many circumstances.[8] Usually the facts in the case under consideration will be controlling.

It is recognized that one writing on a scientific subject may quote copiously from articles in the same or related fields. We are all familiar with the types of papers practicing physicians frequently read to their local medical societies. Pressed for time as they are, they review the literature on their subject and summarize it in their papers. This is permissible under the Copyright Law though, sometimes, unfortunate from a scientific viewpoint. Such papers are frequently published and become a part of the literature and are cited as being authoritative.

Although the doctrine of fair use is liberally applied to quotations in other publications designed to advance human knowledge, the unauthorized use of quotations in advertisements is severely limited. This is particularly true with respect to advertisements circulated among the general public. In the leading case of *Henry Holt & Co.* v. *Liggett & Myers Tobacco Co.*,[9] a Dr. Felderman had written a book "The Human Voice, Its Care and Development." After publication of the book, Liggett & Myers published a pamphlet entitled "Some Facts About Cigarettes." Under the heading "Do Cigarettes Affect the Throat?" appeared the following:

"Dr. Leon Felderman, noted oto-laryngologist, Philadelphia, is quoted (1931) as follows:

" 'Statistics have it that 80 per cent of physicians are smokers. . . . It appears unanimous that smoking is not nearly so injurious as over eating. . . . From my experience with ear, nose and throat cases, I firmly believe that tobacco when properly used, has no ill effect upon the auditory passages' ".

In holding that this was not a fair use of Dr. Felderman's book, the court said: (304)

"Its publication was not one in the field in which Dr. Felderman wrote, nor was it a scientific treatise or a work designed to advance human knowledge. On the contrary, it is clear that its pamphlet intended to advance the sale of its product—Chesterfield Cigarettes—a purely commercial purpose. It cannot be implied that Dr. Felderman consented to the use of his work for such a purpose."

It is recognized that the advertising leaflets disseminated to physicians by pharmaceutical manufacturers serve a useful and often necessary purpose. With dozens of new products being introduced each year, the busy physician relies on the manufacturer to inform him as to the indications for which the product is useful and in some instances, the method of administration. He draws on his own scientific knowledge and training in weighing the merits of a new product and verifies his conclusions by using it. There are, of course, many other factors, such as the reputation of the manufacturer, the nature of the product, etc., that would support the contention that leaflets of this character are educational. Even so, they are essentially advertisements and are designed for the purely commercial purpose of stimulating the sale of the product. They therefore may come within the rule of the *Liggett & Myers* case. The fair use doctrine will not normally

(*Continued on page 388*)

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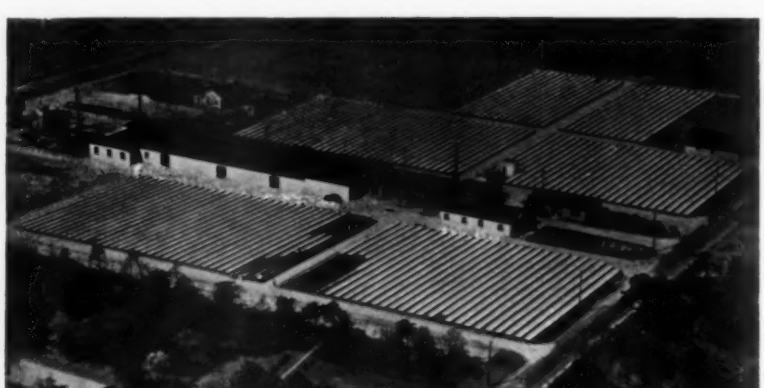

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Aluminum Methionate—New Astringent

J. E. Christian and G. L. Jenkins (*J. Am. Pharm. Assoc.*, Scient. Ed. 39:663, 1950) observe that a number of antiperspirants have been proposed to control or retard the flow of perspiration from certain skin areas by application of suitable preparations of astringent material. The more common types of preparation for this purpose contain an acid salt of a metal, usually aluminum chloride, aluminum sulfate, zinc chloride, aluminum nitrate, alum, and similar salts. Such substances are effective in stopping perspiration but are unsatisfactory and hazardous in that the use thereof frequently produces acute skin irritation or dermatitis and rots clothing fabrics which come in contact with the treated areas. This action has been shown to be due primarily to the acid radical.

In their investigations a large number of known astringent agents were tested for astringent power and for their effect on cloth and the results compared with the values obtained using an astringent agent previously unreported. This work was done in an effort to provide a new and improved astringent agent which combines full inhibitory perspirant action equivalent to, or better than, other aluminum salts, but avoids their corrosive action and is harmless to the skin and fabrics. It was found that the utilization of one of a series of aluminum alkyl disulfonates, namely aluminum methionate, was superior to other commonly used aluminum salts. In addition extensive comparative protein precipitation tests for astringency indicate that this salt is more effective as an astringent agent than other common astringent agents tested, and thus may be applied to improve perspiration retarding or inhibiting preparations. Comparative cloth tests indicated that aluminum methionate is harmless to fabric, whereas other common astringent agents tested were found to weaken cloth considerably. The salt has the additional advantage in that it is very soluble, hygroscopic, and nontoxic. The salt being hygroscopic aids in preventing the drying-out and hardening of creams containing it. Extensive tests have shown that the methionate radical is nontoxic.

Improved Calamine Liniment

Calamine liniment, says M. A. Starkman (*Canadian Pharm. J.* 83:502, 1950), is a rather tricky preparation, tricky to make, tricky to keep. The final product may turn out at one time quite thick and at another time quite thin. At one time it may turn out to be a paste, almost like an ointment, and then again it may turn out to be ropy or stringy. To overcome some of these difficulties, he made a study of calamine liniments and developed the following formula for an improved calamine liniment which is stable, easily preproducible and which possesses the adhesive properties of the accepted preparation:

Calamine	**80.0 Gm.**
Zinc oxide	**80.0 Gm.**
Calcium stearate	**6.4 Gm.**
Olive oil	**500.0 cc.**
Ammonia, forte	**2.0 cc.**
Water	**500.0 cc.**

Make a paste of the calcium stearate and some olive oil and add this paste to the remainder of the olive oil. Heat to dissolve the calcium stearate. Rub the calamine and zinc oxide with the olive oil containing the calcium stearate till a fine uniform dispersion is obtained. Add the ammonia to the water and then add this with vigorous shaking to the olive oil suspension. Shake vigorously till a fine uniform emulsion is obtained.

Pressure Cooker for Drug Extraction

In work done by S. J. Greco and A. G. Dumez (*J. Am. Pharm. Assoc.*, Scient. Ed. 39:560, 1950) several official galenicals involving the process of percolation were prepared by the use of the pressure cooker and were compared with similar products made by the official methods. From their studies of the individual drug extractions it was concluded that nux vomica tincture, belladonna tincture, hyoscyamus tincture, stramonium tincture, cascara sagrada fluidextract, and wild cherry syrup could be made successfully by the pressure cooker method of extraction. Ipecac fluidextract, ginger fluid extract, and nux vomica fluidextract which would conform to the official standards could not be made by this method. It was concluded that by the pressure cooker method, tinctures of official quality could be made from the alkaloidal drugs, especially those of the *Solonaceae* family.

Greco and Dumez observe that, in the cases where the cooker method is satisfactory, it has many advantages over the official extraction methods. There is, in most instances, a considerable saving of time. Packing of the percolator and regulation of the flow of percolate are eliminated. All of the preparations made by this method contain less total extractive than their official counterparts, and the less total extractive, the more stable the finished product is likely to be.

Hair Dyeing—Medical Aspects

In discussing the medical aspects of hair dyeing in the British publication, the *Practitioner* (165:171, 1950), E. W. P. Thomas points out that until rather recently the only dyes available were either natural vegetable colors or metallic salts, sometimes used in combination. Hair dyeing was revolutionized in about 1880 by the discovery of the synthetic organic dyes, paraphenylenediamine and allied chemicals. Hair dyes of the paraphenylenediamine group are potential skin irritants in the class known as sensitizers. They are contact allergens able to create a state of epidermal sensitization, which manifests itself as an eczematous dermatitis in the area of contact. Only a small proportion of those exposed acquire sensitization. An estimate that 4 per cent of the general population have an idiosyncrasy toward this chemical is now regarded as far too high. Nevertheless, the dye is a skin sensitizer and is responsible for nearly all cases of hair dye dermatitis, as well as being a cause of occupational dermatitis among hairdressers. A patch test should be carried out before each application of a para dye, whether the dye be used for the whole head or merely for touch-

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ing up. All reputable hairdressers recognize that this test should be done, but the client may be impatient. Some hairdressers have but a hazy idea of the significance of the skin test and believe that once the hair has been dyed without ill effect the dye can be used thence forward without fear. Allergic sensitization, however, may develop after prolonged periods of use of the dye. Patch tests are by no means infallible and, when negative, are no absolute guarantee against dermatitis. These dyes should not be applied during pregnancy or menstruation or in the presence of eczema or dermatitis on any part of the body. It is also best to avoid them if the general health is below par, when the threshold of skin sensitivity may be temporarily lowered. They must never be applied to the evebrows or eyelashes.

Less Irritating Shaving Cream

In a discussion on the production of shaving creams, in which the problem of eliminating irritation is considered, C. Doubleday (*Soap, Perf. & Cosmetics* 23:715, 1950), suggests the following as an example of an improved formula:

Coconut oil	10.0 parts
Castor oil	2.0 "
Fatty acid (Myristic)	5.0 "
Stearic acid	25.0 "
Potassium hydroxide (89/90)	9.5 "
Borax	0.5 "
Diglycol stearate	2.0 "
Stearyl alcohol	1.0 "
Liquid paraffin	1.5 "
Sorbitol	5.0 "
Water	45.0 "

Departing somewhat from the usual methods, Doubleday employs the following production procedure: Measure the water and run into a stainless steel vessel that should be able to hold at least 50 per cent more than the total batch. Add the potash and borax, and stir until dissolved. Add the oils and fatty acids without any previous melting. This prevents the fatty acids from becoming lumpy. The heat of reaction will commence the saponification. Now place the container in the water bath and commence to heat. Stir at intervals until saponified. This will be noted if the stirrer is lifted out of the liquid and allowed to drip; as the drops get cooler they will appear as clear as glass at the end of the stick. Tests show that the fatty acids are now all neutralized. The remaining solids and mineral oil can be added just as they are, and the whole batch slowly stirred. This method avoids the violent effervescence caused by adding a hot mix—although this can be done if in small quantities. Leave the batch covered in the water bath for an hour and then add the sorbitol. At this stage it will be noted that sorbitol and borax are incompatible, so after a few stirs the whole mass turns liquid, and as long as the heat continues it will remain so. ¶

The resulting shaving cream remains stable in consistency in temperatures between 40° to 80° F.; at 32°F. it can still be easily squeezed out of a tube; at 95°F. it is not liquid, and in fact is still of a good consistency at 130°F.

After-Bath Preparations

As part of his discussion of bath preparations, M. Fock (*Alchimist* 4:267, 1950) also presents typical European formulas for after-bathing preparations. Thus an astringent lotion for after-bath use may consist of:

Hamamelis extract	25 per cent
Glycerine	3 " "
Alcohol	38 " "
Distilled water	30 " "
Boric acid	3 " "
Tannin	1 " "

After-bath creams should also be astringent and should contain suitable proportions of fatty ingredients. Indicative is a cream consisting of:

Stearin	15.0 per cent
Lanolin	5.0 " "
Paraffin oil	3.5 " "
Glycerine	5.0 " "
Sodium bicarbonate	1.0 " "
Ammonium carbonate	1.5 " "
Hamamelis water	34.0 " "
Tannin	1.0 " "
Distilled water	34.0 " "

After-bath powders, Fock feels, should also possess astringent properties, as in the following example:

Magnesium carbonate	24 per cent
Talc	67 " "
Boric acid	7 " "
Tannin	2 " "

Absorption Powers of Powders

J. Rae (*Brit. J. Dermat. & Syph.* 62:319, 1950) reports the results of studies in which samples of powders used in dusting powders were tested for their absorptive properties. In his investigations, the powders were placed in shallow dishes, under standard conditions, in a closed vessel containing water. The percentage of moisture absorbed during twenty-four hours was calculated by weighing. It varied from 2 to 15. The powders examined, arranged in order of increasing absorptive properties, were precipitated calcium carbonate, zinc oxide, lithium stearate, boric acid, French chalk, magnesium carbonate cosmetic, titanium dioxide, aluminium stearate, calcium stearate, zinc stearate, kaolin, heavy magnesium carbonate, magnesium stearate, magnesium trisilicate, starch, zinc carbonate and silica amorphous.

Combined Preservative

In considering the preservation of medicines and similar products, H. Dietmann (*Pharm. Ind.* 12:205, 1950), states that among the many *para*-hydroxybenzoic acid esters with high phenol coefficients, a mixture of three parts of the propyl ester and seven parts of the methyl ester provides a dependable bactericidal and bacteriostatic agent. In 0.1 per cent aqueous solution, it is recommended for sterilizing vials and stoppers used for medical agents. It is also a preservative for pharmaceuticals which cannot be heat-sterilized, provided it is used in the following concentrations: 0.1 per cent for aqueous solutions; 0.3 per cent for oil-or fat-containing ointments; 0.15 per cent for oil emulsions; 0.08 per cent for syrups; and 0.15 per cent for tablets.

Liquid Dermatological Vehicle

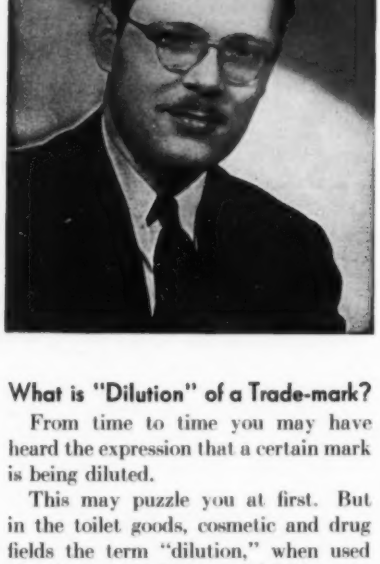
In the *Bulletin of the American Society for Hospital Pharmacists* (7:287, 1950), G. L. Phillips states that the following formula was devised to provide the dermatologist with a liquid, water-soluble vehicle for the external application of medicinal agents:

Isopropyl alcohol	20.0 cc.
Propylene glycol	20.0 cc.
Polyoxyethylene glycol monolaurate (Tween 20)	10.0 cc.
Distilled water	50.0 cc.
Perfume	as desired

This vehicle is especially valuable in treating diseases of the scalp as it is inconspicuous and easily removed. Many of the commonly used drugs for skin diseases are completely soluble in this vehicle, including benzoic acid, salicylic acid, *beta*-naphthol, chloral hydrate, coal tar solution, menthol, phenol, pilocarpine hydrochloride, resorcin, resorcin monoacetate, and so forth. Sulfur and ammoniated mecury may be suspended in it.

YOUR TRADE-MARK RECORD

by John H. Graham
International Patent and Trade-Mark Consultant



What is "Dilution" of a Trade-mark?

From time to time you may have heard the expression that a certain mark is being diluted.

This may puzzle you at first. But in the toilet goods, cosmetic and drug fields the term "dilution," when used chemically, is well known. Adding more liquid diluents to the essence will change a perfume to a toilet water.

By this act, the essential oils are diluted and are rendered less powerful.

It is essentially the same with a trade-mark. Allowing others to come into your chosen field with similar trade-marks for s i m i l a r g o o d s will weaken the basic strength of the mark—will dilute it.

It is for this reason that constant vigilance must be exercised to protect a good trade-mark. Often, it seems annoying to have your trade-mark counsel bring up some mark which seems to be encroaching on you.

You have to consider whether to take legal proceedings or not. Whatever happens, it costs you money.

But let's look at a typical case and see the score. A client has a good, soundly secure trade-mark in the cleansing tissues and paper towels field, for example. He has had a trade-mark registration for many years. In the drug store trade he is well known, as is his mark.

Along comes another who adopts the same mark for, say, cleansing creams. This other attempts to register the mark for creams. The question of possible opposition arises. "So," says the client "I don't like it." "I've had that mark for 15-odd years! But it's going to cost money to oppose and I may never want to go into the creams business anyway."

These are good arguments but it is not a question of future fields which he might enter. Actually, there are many decisions confirming that speculative future fields can not be closed off by registration in one field.

The real question is what will happen in the future if this mark is allowed to be used on various similar goods not those of the original owner. He will still have his mark but it no longer will be outstanding or "the essential oil." It will be weakened by the same mark being used on the other peoples' goods, but sold over the same counter in the same class of stores and to the same public.

Soon the druggist himself may not be quite sure which supplier is involved when tissues or creams or lipsticks or soaps are asked for by a purchaser under this mark. The mark has really become diluted.

There is a limit as to how far you can reach out to prevent others from using your mark, or a similar one, on other kinds of goods, but one of the great achievements of the Lanham Act (1946) was to drop the barriers between arbitrary classes of goods and consider possible common sources of availability to the public.

One of the ways which immediately occur to the mind is, well, why not go ahead and register the mark in every possible class so that all fields are covered? In other words, in the hypothetical case discussed above, why not register the mark for tissues, creams, soaps, combs and anything else which might be ultimately in conflict?

This has been proposed and in some instances is done but the position taken is weak. It is granted that for registration purposes it is only necessary to carry out an interstate sale of goods with the trade-mark applied. This gives a date of first use. But this is not enough to give full rights. Actual use in commerce, is necessary to sustain the trade-mark rights.

This point can be no better put than by a quote from a recent District Court decision where it was said: "One acquires no rights of ownership in a mark if the sale of the goods bearing the mark was merely a token conformity with the 1946 Act in order to bolster a claim for trade-mark registration; but a single sale is sufficient to establish ownership if there is intent in good faith to continue to use."

These questions of extension of a mark and acting to avoid dilution of the mark are in some ways aggravating to the manufacturer or distributor who just wants to get out there and sell the goods.

But when the high cost in time, labor and cold hard cash is considered in dreaming up a mark, registering it, putting it over by strong advertising and generally fathering it to be a big strong boy, then the efforts to keep it in the clear show up as necessary and well worth while.

The following Trade-Marks were recently published in the Official Gazette of the United States Patent Office.

Anti-Cay—51—K—579,556
Purex Products Inc., Baltimore, Md.
Ser. May 26, 1949 D. U. May 3, 1949

Beauty Begins—51—C—584,448
Barbara Gould, Inc., N. Y., N. Y.
Ser. Sept. 3, 1949 D. U. Aug. 15, 1949

Beauty Budget—51—C—581,406
Cosmetics, Inc., Brooklyn, N. Y.
Ser. July 1, 1949 D. U. March, 1949

Blair—18—CM—588,649
Morton Mfg. Co., DBA Blair of Virginia, Lynchburg, Va.
Ser. Dec. 1, 1949 D. U. Since 1909

Cashmere Bouquet—52—A—586,140
Colgate-Palmolive-Peet Co., N. J.
Ser. Oct. 12, 1949 D. U. Since 1869

Chic—44—R—594,290
Standard Products Corp., Whitman, Mass.
Ser. Mar. 20, 1950 D. U. July 1, 1949

Child's—23—R—584,713
Childs Dist. Co., Jonesboro, Ark.
Ser. Sept. 12, 1949 D. U. Aug. 15, 1940

Christine—51—H—579,803
Christine Cosmetics, Inc., Princeton, N. J.
Ser. June 1, 1949 D. U. Since 1937

Cinderella—51—B—586,681
Cinderella Unusual Cosmetic Co., Memphis, Tenn.
Ser. Oct. 22, 1949 D. U. Nov. 8, 1948

Copacabana—51—BC—597,194
A. Breslauer Co., N. Y., N. Y.
Ser. May 10, 1950 D. U. Apr. 4, 1950

Crosby—51—I—582,801
H. S. Slater, DBA The Slater Drug Co., Utica, N. Y.
Ser. Aug. 1, 1949 D. U. Apr. 1, 1949

Cyl-Dan—51—H—567,805
Skin Tested Drug Products Inc., N. Y., N. Y.
Ser. Oct. 28, 1948 D. U. Sept. 10, 1948

Danacreme—51—BC—598,084
Les Parfums de Dana, Inc., N. Y., N. Y.
Ser. May 25, 1950 D. U. May 4, 1950

Derma-Skour—52—A—592,883
The Diversity Corp., Chicago, Ill.
Ser. Feb. 3, 1950 D. U. Feb 1, 1945

Detergicide—52—A—547,584
U. S. Catheter & Instrument Corp., Glen Falls, N. Y.
Ser. Jan. 20, 1948 D. U. Sept. 15, 1947

Double Life—51—C—597,768
Lucien LeLong, Inc., Chicago, Ill.
Ser. May 19, 1950 D. U. Apr. 20, 1950

Eniarrol—51—H—577,874
L. B. Duncan, DBA Eniarrol Products Co., Los Angeles, Calif.
Ser. Apr. 28, 1949 D. U. Jan. 1, 1948

Elizabeth Rosewall—51—C—575,814
Josephine Gordon, N. Y., N. Y.
Ser. Mar. 17, 1949 D. U. Feb. 1, 1949

Focal Point—51—C—583,551
Sardi, Inc., Chicago, Ill.
Ser. Aug. 16, 1949 D. U. Feb. 15, 1949

Forever Young—51—C—590,890
Bernard C. Duffy, N. Y., N. Y.
Ser. Jan. 14, 1950 D. U. Nov. 10, 1949

Golden Necklace—51—C—578,583
Fontaine Perfume Corp., N. Y., N. Y.
Ser. May 11, 1949 D. U. Mar. 12, 1948,

Gladys Pickford—51—BCE—590,296
Academic Scientific de Beaute, Paris, France.
Ser. Jan. 4, 1950 D. U. June 11, 1943

Ilipen—51—C—574,573
Murray Dulberg DBA The Ilipen Co., N. Y., N. Y.
Ser. Feb. 26, 1949 D. U. Feb. 19, 1949

Imedia—51—EHS—597,299
Eugene Schueller, Paris, France
Ser. May 11, 1950 D. U. Jan. 12, 1950

Kurlspin—40—G—535,868
Duart Mfg. Co., Ltd., San Francisco, Cal.
Ser. Sept. 12, 1950 D. U. Dec. 29, 1948

L'Oreal—51—CEHS—597,300
Eugene Schueller, Paris, France
Ser. May 11, 1950 D. U. Mar. 13, 1947

Magic Moment—51—B—582,522
Daggett & Ramsdell, Inc., Newark, N. J.
Ser. July 26, 1949 D. U. July 1949

Merke-Twin—51—H—590,027
Alois Merke, Phila., Pa.
Ser. Dec. 28, 1949 D. U. Dec. 1, 1949

Monsoon—51—BC—574,419
Duke & Benedict, N. Y., N. Y.
Ser. Feb. 24, 1949 D. U. Dec. 1, 1947

Nu-Delible—51—C—593,058
Durant Asso., Inc., Chicago, Ill.
Ser. Feb. 25, 1950 D. U. Nov. 1, 1949

Panama Hattie—3—M—594,877
Elizabeth Arden Sales Corp., N. Y., N. Y.
Ser. Mar. 30, 1950 D. U. Mar. 1, 1950

Perfume of Darkest Night—51—BC—583,383
Consolidated Cosmetics Inc., Chicago, Ill.
Ser. Aug. 12, 1949 D. U. July 25, 1949

Pompom—51—C—597,679
Barbara Gould, Inc., N. Y., N. Y.
Ser. May 18, 1950 D. U. June 1941

Prince Alexis—51—B—540,455
Alexis N. Romanoff DBA Prince Alexis, N. Y., N. Y.
Ser. Nov. 7, 1947 D. U. Sept. 22, 1947

"Prime-O-Life" 51—C—597,626
Cynthia Andrews, Inc., N. Y., N. Y.
Ser. May 17, 1950 D. U. May 5, 1950

Richglow—51—CH—590,767
A. Turner, DBA Richglow Henna Co., Glendale, Calif.
Ser. Jan. 12, 1950 D. U. Nov. 1, 1947

Silber-Derome—51—C—584,698
Silber-Derome Co., Brooklyn, N. Y.
Ser. Sept. 10, 1949 D. U. Aug. 10, 1949

Sodalt—51—K—581,389
The Sodalt Co., Arkadephia, Ark.
Ser. June 30, 1949 D. U. Sept. 1, 1948

That Stuff—51—C—590,452
A. L. Pearce, Cheyenne, Wo.
Ser. Jan. 6, 1950 D. U. Jan. 1, 1950

Tutu—51—B—591,099
Alvin Miller, N. Y., N. Y.
Ser. Jan. 19, 1950 D. U. Jan. 5, 1950

Twilight Bloom—51—C—567,443
Winifred M. Walsh, Hillsdale, N. J.
Ser. Oct. 21, 1948 D. U. Sept. 8, 1948

The Production of Red Tape

(*Continued from page 313*)

tary control is in its essence a good and necessary thing and long before we ever heard of the phrase, business men made financial forecasts in order to develop sales advertising and production programs, and to provide for working and fixed capital requirements. But detailed budgeting—and in some firms budgets are so excessively detailed that the budget report for the organization is a volume two inches thick—is in such detail an utterly futile procedure in an industry which is so inherently profitable, that a large percentage of the firms in it can tell whether or not they are making money by simply knowing their sales volume.

In addition to the meetings we have to attend, in addition to all the letters, memoranda, requisitions and reports we have to write, we also add to our burdens and our writer's cramp by writing a mass of useless memoranda which could be handled over the telephone or the intercom. We do this because we don't want to take responsibility, we are afraid to be caught out on the end of a limb. We do this in blind obedience to the age old dictum "Put it in writing." The man who invented that phrase should have been castrated. He was probably a typewriter salesman. From some of the things I have seen I came to the conclusion long ago that production men shouldn't have been taught how to write. Many plant managers are so busy reading, writing and conferring that they haven't time to go through their plants to find out what's going on. They lose contact with their people. They depend upon reports rather than upon men. I frequently find plant managers so bound down by red tape that they can spend not more than half an hour a week inspecting their plants.

If I may be permitted to paraphrase Confucius' dictum to farmers: "The foot of the owner is the best fertilizer for the soil." I should like to say to all you who are too busy to do any foot work that "the eye of the plant manager is the best stimulus for production."

We are all willing to criticize the Army and Navy for red tape; we are all willing to call civilian government employees "a bunch of time-wasting bureaucrats"; but if we took a long unbiased look at our own organizations we'd find we have become bureaucrats ourselves. We must stop the waste of time and people. We must have more production and more producers. Instead of spending sleepless nights worrying about where we are going to get more workers I suggest we try to get more productive workers out of our own organizations by cutting out the red tape.

The war in which we are engaged will be won, not by the number of bombs we are able to drop on Russia, it will be won by production. We have to produce not only enough of everything to win the war but enough to maintain the economy for which we are fighting in a healthy condition. So for the sake of our country let's stop impairing our effectiveness with superfluous red tape.

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INDUSTRY'S BOOKS

Pharmacological Basis of Penicillin Therapy, by Karl H. Beyer, Ph.D., M.D., Director of pharmacological research, The Medical Research Division, Sharp and Dohme, Inc., 214 pp., Charles C. Thomas, Springfield, **$4.50.**

Useful to clinicians, medical students, and pharmacologists, this monograph presents briefly the pharmacological basis of penicillin therapy in a concise and complete form. There exists no other review of the broad field of penicillin pharmacology. No other agent has made such a profound impression on the practice of medicine in recent years. Its remarkable lack of toxicity and its high degree of anti-bacterial activity have influenced profoundly the treatment of diseases already amenable to sulfonamide therapy, the otherwise protracted treatment of syphilis, and have made possible the clinical cure of the bacterial endocarditis which has not heretofore succumbed to therapy. The technical aspects and theoretical considerations of the enzymologic approaches to certain phases of the problems are kept within the general appreciation of the average medical student. The material is well organized from the standpoint of practical reference for busy physicians.

Tablet Coating, by Ronald Clarkson, Tablet Consultant, 74 pp., Illus., Drug & Cosmetic Industry, New York, **$4.**

To the best of our knowledge this book is the first complete practical text on this subject. The author, an outstanding tablet consultant, has specialized for many years in the instruction of both men and women in the technique of tablet coating and is regularly called upon by pharmaceutical plants to solve problems in this field. For several years he has supplied, on a consulting basis only, a set of basic instructions entitled "The Fundamental Principles of Tablet Coating" to clients in various countries of the world and it was only after being completely satisfied that written instructions would actually work that publication of this text book was given serious consideration. In this text the author has greatly expanded his original treatise and due to wide experience the instructions are easy to understand and the reader is guided step by step through the various operations. In addition to explaining what to do and the reasons for doing the operation in a certain way, the author also tells of the many things "Not to Do" and the remedies for various mistakes which all too often puzzle inexperienced coaters. The book contains 15 chapters—containing complete operating instructions for the preparation of tablets for coating, subcoating, coloring, polishing, coatings for tropical climates, protective coatings, enteric coatings, complete formulae and instructions for the preparation of subcoating syrups and dusting powders, the most widely used colored syrups, polishing solutions and instructions for reworking spoiled tablets. An entire chapter is devoted to equipment, complete with illustrations. Also included in this chapter is a layout for a complete coating department, together with recommendations for hot air supply and exhaust systems. The book should be in every library in the industry.

The Dispensatory of The United States of America—1950 Edition, Arthur Osol, Ph.G., M.S., Ph.D., Professor of Chemistry and Director of the Department of Chemistry, Philadelphia College of Pharmacy and Science, and George E. Farrar, Jr., M.D., F.A.C.P., Associate Professor of Medicine, School of Medicine, Temple University, Complete in Two Volumes, 2057 Pages, J. B. Lippincott Co., Phila., $25.

One of the important functions of The Dispensatory is to provide original information about new drugs and to supply current data about older ones. The accepted tempo of research during the past few years in the field of medicinals has resulted in the discovery of more new drugs or new uses for older drugs than has ever been the case during any period between revisions of this book. The most striking developments have occurred in the field of antibiotic substances. These are now covered thoroughly, approximately 17 pages being devoted to penicillin alone. The 95 articles admitted to the U.S.P. XIII for the first time have each necessitated a new monograph in The Dispensatory, while many of the 184 additions to the N.F. VIII, and the 62 additions to the British Pharmacopoeia provided for in the Seventh Addendum are also described for the first time in this revision. Those new drugs receiving recognition in New and Nonofficial Remedies 1947, and many others, have been described. One of the most significant changes in editorial policy is that of the enlargement of that portion of each monograph devoted to a discussion of therapeutic uses and dosage. Another new feature of this edition is the inclusion, in the case of drugs marketed under various distinguishing tradenames or trade-marks, of the name of the manufacturer or distributor of the particular brand mentioned. This will enable physicians and pharmacists to identify immediately such drugs. A further innovation of this work is the addition of an entirely new section—Part IV—dealing with the uses and doses of drugs employed in veterinary medicine. The entire work is divided into the following parts: Volume I—Part One: Drugs recognized by The United States Pharmacopoeia (13th Revision), The Pharmacopoeia of Great Britain (1932), or The National Formulary (8th Edition). Part Two: Drugs not official in The United States Pharmacopoeia (13th Revision), The Pharmacopoeia of Great Britain (1932), or The National Formulary (8th Edition. Part Three: General Tests, Processes, Reagents, and Solutions of The United States Pharmacopoeia (13th Revision), or The National Formulary (8th Edition). Part Four: Veterinary Uses and Doses of Drugs. Part Five: Tables of The United States Pharmacopoeia (13th Revision) or The National Formulary (8th Edition). Functional Index. Volume 2, 1950, Part Six: New Drugs of The United States Pharmacopoeia (14th Revision), The Pharmacopoeia of Great Britain (1948), or The National Formulary (9th Edition) which have not previously been official. Part Seven: New drugs not official in The United States Pharmacopoeia, The Pharmacopoeia of Great Britain, or The National Formulary. Functional Index.

PERFUMER'S SHELF

Cinnamon Oil from Seychelles

In the new British publication, *Colonial Plant and Animal Products* (1:119, 1950), H. T. Islip and W. S. A. Matthews report that cinnamon bark oil produced by straight distillation from the bark grown in Seychelles unfortunately does not fulfil the requirements of the British Pharmacopoeia in respect to its solubility in 70 per cent alcohol. Investigations were therefore carried out a few years ago by the Department of Agriculture, Seychelles, and by the Imperial Institute to determine whether it is possible by varying the method of distillation to obtain an oil which would meet the official specification. Fractional steam distillation was tried with this end in view and these tests showed that it was not possible to produce oil from Seychelles cinnamon bark which would conform to the requirements of the British Pharmacopoeia, either by fractional steam distillation or by subsequent mixing of the fractions.

The chief obstacle to the production of a satisfactory oil from Seychelles bark is a deficiency of eugenol in the oil compared with the Ceylon product. This difference, it is considered, may be due to climatic and soil conditions, or to the difference in age of the barks from these two sources when distilled. In order to determine whether the latter explanation is the cause of the difference, three samples of bark collected from trees five years old, eighteen months old, and nine months old respectively were sent by the Director of Agriculture, Seychelles, and were subsequently examined in the laboratories of the Imperial Institute.

The results of examination of the present samples of cinnamon bark from the Seychelles have shown that their volatile oil content was much below the minimum of 1.0 per cent specified in the British Pharmacopoeia, 1948. The examination has also shown that there are no major differences in the composition of the oil from Seychelles cinnamon bark of different ages and that the eugenol content of the oil is considerably lower than that present in commercial Ceylon cinnamon oil.

As anticipated from the large amount of work on Seychelles cinnamon bark carried out previously, the oil obtained from each of the present samples did not conform to the requirements of the British Pharmacopoeia and it is considered reasonable to conclude that one reason for this is the low content of eugenol. This deficiency in eugenol may be due to soil and climatic conditions in the Seychelles or to the variety of cinnamon growing there being different from that cultivated in Ceylon. The examination of bark from authentic material of Ceylon origin grown in the Seychelles should provide very useful information on this point.

Perfuming Disinfectants

In his general discussion on the importance of perfumes for household chemical products, S. P. Jannaway (*Alchimist* 4:187, 1950) calls attention to the growing importance of such compounds in household disinfectants and the steady trend towards the odoriferous improvements of disinfectants as a class. In his opinion, the general aim should be to achieve a pleasantly aromatic combination of a definitely (hygienic) and refreshing character. Even the odor of lysol and other coal tar disinfectants may be improved by the judicious admixture of suitable aromatics. More widely popular than the old-style black and white coal tar fluids are the newer disinfectants based on chlorinated phenols. These may be very satisfactorily perfumed with the aid of specially compounded blends of terpineol, benzyl acetate, diphenyl oxide, diphenyl methane, safrole, and others, together with such essential oils as citronella, cedarleaf, cedarwood, pine, sassafrass, spike, lavandin, rosemary, thyme, anise, clove and eucalyptus, and the like. Ready-made compounds based on these and other suitable aromatics are much preferable.

Jannaway also notes that many perfume materials are strongly antiseptic. In cosmetics, they assist very materially in preserving lotions and emulsions from bacterial attack. It is a well-known fact, for example, that the British Pharmacopoeia's aromatic castor oil emulsion, containing essential oils, requires no further preservative. The same observation covers a number of successfully marketed preparations, ranging from face creams to tooth pastes, though when in doubt, the chemist will incorporate additionally a trace of parahydroxybenzoic ester or other standard preservative.

According to Jannaway among the essential oils that have been found outstanding for their anti-bacterial properties are the following: cassia, cinnamon, Spanish hop oil, parsley, wintergreen, lemongrass, tea tree, red thyme, palmarosa, clove, eucalyptus and rose geranium. The corresponding isolates, such as the alcohols (especially phenols), esters and possibly terpenes, are found to share these bactericidal properties. The literature on the subject appears to be full of contradictory statements, largely because of differences in the quality of oils tested and the variable conditions of the tests. Even so, it is an indisputable fact that perfume blends based on such oils as the foregoing are likely to increase the efficiency of a disinfectant rather than to lower it. It is probable that the most satisfactory perfume oils to use in conjunction with chlorinated phenols are likely to be those which exhibit maximum efficiency against staphylococci; namely, cassia, cinnamon and hop oils.

Anthranilates

In summarizing his comprehensive review on the anthranilates, R. W. Moncrieff (*Soap, Perf. & Cosmetics* 23: 1025, 1950) observes that these compounds are characterized by their odor of orange-flowers. The methyl ester, which is a natural constituent of neroli and in smaller proportions of other essential oils, is the prototype; the ethyl ester has a finer odor, still of orange-blossom but sweeter and softer. Both are widely used for synthetic oils and perfumes. The higher alkyl esters have weaker odors and the butyl and amyl anthranilates are nearly odorless.

Fine powerful orange-blossom fragrance is to be found in geranyl anthranilate and in aurantiol, this last being the condensation product of methyl anthranilate and hydroxycitro-

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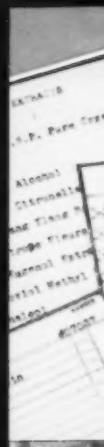

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ROSALDEHYDE

For Use In: Cosmetic creams and lotions.

Odor Type: Fresh, leafy, diffusive fragrance.

Remarks: If you're looking for something that will give your product a nice, refreshing odor effect - something not too costly - try an addition of 2 or 3% of this specialty to your composition. It will give you a very pleasing and satisfying result.

CARNATION ALPHA

For Use In: Any perfumed preparation.

Odor Type: Spicy, carnation fragrance.

Remarks: Very useful in any composition needing a deep carnation-spice odor. This specialty has none of the chemical harshness of eugenol or iso eugenol. It is strongly characteristic, but in the composition produces a soft, floral delicacy.

AMBREINE POWDER

For Use In: All types of perfumed products.

Odor Type: Warm, deep, ambre-like

Remarks: This is an excellent fixative and modifier for use in Floral Bouquets, Fantasy Bouquets and Orientals. In light bouquets, suggest using from 2 to 3% and anywhere from 5 to 10% for the heavier scents. Its use will add greatly to the character of your composition — warmth, depth and powerful fixation.

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nellal. The corresponding condensate of methyl anthranilate and anisaldehyde, known as acaciol, has a useful acacia-mimosa odor. Menthyl anthranilate, although nearly odorless, has found employment as a constituent of sun-tan oil because of its power of absorbing ultra-violet light, and also as a fixative.

Moncrieff points out that some of the anthranilates evoke surprising biological reactions; they are fungistats, flea repellents and they exert a "knock-down" effect on lice.

He also calls attention to the fact that the methyl ester of N-methyl-anthranilic acid makes up more than half of mandarin leaf oil.

So-called Fruit Aldehydes

According to J. V. W. De Vries (*Perf. & Essent. Oil Rec.* 41:326, 1950), the so-called fruit aldehydes, C.14—Peach, C.16—Strawberry, C.18—Coconut, C.19—Pineapple, and C.20—Raspberry, are products which are universally used in the flavor industries. Some firms offer the so-called aldehydes C.15—Apple, C.17—Cherry, C.22—Tutti Frutti, C.25—Apple, and C.30—Grenadine, but these are of minor importance. Actually, these so-called aldehydes have nothing in common with real aldehydes, which are derivates of hydrocarbons with the group-CHO in the chain. They form, however, raw materials for the flavor industry, and are usually based on one or more chemicals resembling the odor and taste of the fruit after which the so-called aldehyde is named.

In discussing the most important of these compounds, De Vries states that aldehyde C.14 is the most widely known. Its principal constituent is *gamma n.* undecalactone. This compound has an extremely powerful peach-like odor, which even in high dilution is detectable in a flavor mixture. Undecalactone often is sold without any additions under its proper chemical name. If, however, some "touching up" is needed, the mixture ought to be given a special name. In most cases only small additions are made to undecalactone in order to improve its value for flavors, because the compound is sufficiently suggestive of peaches by itself. However, small additions may be very beneficial; benzaldehyde and vanillin being the most important.

Aldehyde C.16, or Strawberry aldehyde, is based on ethylmethylphenylglycidate. Sometimes ethylphenylglycidate is used, but this compound has a weaker and less natural taste. The blending of ethylmethylphenylglycidate to a good flavor base is more difficult than undecalactone. The two glycidates have a lack of floweriness and sweetness, with a slightly bitter and too fatty taste. By not using too large quantities and adding other suitable aromatic chemicals, these difficulties can be overcome, and then ethylmethylphenylglucidate becomes a valuable material. Increased sweetness may be obtained with *alpha*-ionone or *alpha*-methylionone, together with small quantities of one of the esters of phenylacetic acid. More floweriness is given with nerol, irone or geranylpropionate.

Aldehyde C.18 or Coconut aldehyde is based on *gamma*-nonalarctone, a chemical which serves a double purpose. If it is used alone as a main constituent in a flavor base, it has a distinct coconut taste. If, on the other hand, it is used in smaller quantities, together with other suitable aromatic chemicals, it is an important and indispensable raw material for prune and apricot flavors. Nonalactone is usually sold without any additions as in a 1 per cent dilution it is sufficiently coconut-like for average flavor qualities. It gives a fine reproduction of the fruit pulp of the coconut. C.19 or Pineapple aldehyde is one of the newer so-called aldehydes. One of the first products which appeared under this name was allylcaproate. This chemical was blended with ethylcaproate, vanillin, octylbutyrate, etc., and the finished base proved a very great improvement over the more old-fashioned pineapple bases, which often suffered from an overdose of the ethyl and amyl esters of butyric and valeric acids.

Nowadays aldehyde C.19 is a pineapple composition, based on the allyl-esters of caproic-, caprylic- and capric acid. Of these esters allyl-caproate is mostly used, though allylcaprylate will undoubedly also become of great importance, as its taste is rounder and smoother. Allylcaprate may be used to obtain a special shading of the base.

Aldehyde C.20, or Raspberry aldehyde is a composition in which the greatest variations of this series are to be found, as it is interpreted differently by every flavor compounder. It is not possible to say that this flavor base is confined to one or a few components, as there are a great many likely components. These possibilities range from a little disguised ethylmethylphenylglycidate to a completely concentrated raspberry flavor.

Homogeranic Acid

According to a note in the *Perfumery and Essential Oil Record* (41:442, 1950), a new method for the preparation of homogeranic acid has been described by Barnard and Bateman. Starting with geranyl chloride, a 50 per cent yield of diethyl geranylmalonate was obtained by condensation with diethyl sodio-malonate. This was then converted to α-oximinogeranylacetic acid and this by treatment with acetic anhydride gave geranyl cyanide. On hydrolysis, this gave homogeranic acid. Yields of all the stages were high, the last stage giving as high as 90 per cent homogeranic acid from the geranyl cyanide.

Oil of Helichrysum Kilimanjari

In another of the reports on essential oils from Tanganyika, E. Brown and H. T. Islip (*Colonial Plant & Animal Prod.* 1:117, 1950) present information on the oil obtained from the wild flowers identified as *Helichrysum kilimanjari*. It was a dark, reddish-brown, limpid oil with a very tenacious odor combining that of roses, orange flowers and chamomile. The sample, which contained a considerable quantity of finely divided dark brown sediment, was filtered through paper before examination. The analytical constants were determined as follows:

Specific gravity	**0.9172**
Optical rotation	**–6° approx. at 21°C.**
Refractive index	**1.4909**
Acid value	**3.0**
Ester value	**18.2**
equivalent to esters, calculated as $C_{10}H_{17}$-O. CO.CH_3, per cent	**6.4**
Ester value after acetylation, mg. KOH/g. oil	**82.5**
equivalent to "total alcohols" calculated as $C_{10}H_{18}O$, per cent	**24.2**
Phenols, per cent	**nil**
Aldehydes (hydroxylamine method) as $C_{10}H_{16}O$, per cent	**5.7**
Solubility in 90 per cent, v/v alcohol at 15.5°C.	**Soluble in 0.4 vol. becoming turbid with 1.4 vol. Clear with 6.7 vol., but with separation of brown crystals.**

A noteworthy feature of the sample is the presence of aldehydes, no aldehydes having been recorded as being present in oils of a number of different species of *Helichrysum* previously examined.

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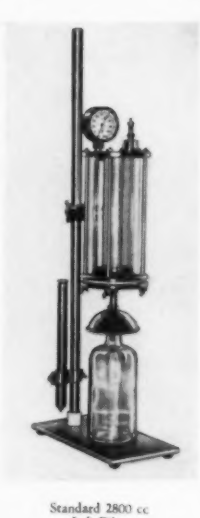

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ADVANCING THERAPY

Cortisone in Acute Gout

A case of acute gout is reported by R. D. Friedlander (*J. A. M. A.* 145:11, 1951), in which the relief following the administration of cortisone was both rapid and dramatic. Cortisone was not administered in this case until the usual methods of treatment had failed. This case is reported as confirmatory evidence of similar instances in which it has been demonstrated that the use of pituitary adrenocorticotropic hormone (ACTH) and colchicine has proved valuable in the termination of an acute attack of interval gout. It is suggested that cortisone is a more efficacious therapeutic agent in such cases than pituitary adrenocorticotropic hormone and that it may prove in the future to be an important means of preventing tophaceous gout.

Oral Saline for Burns

In a report which has been published in a number of medical journals, a group of leading Ame ican surgeons has advised the Public Health Service, Federal Security Agency, that salt water taken by mouth, in a vast majority of cases, is as effective as blood plasma in the emergency treatment of shock from serious burns and other injuries.

Thus, according to the statements published in the *Journal of the Indiana State Medical Association* (43:1217, 1950), in general terms, the treatment calls for approximately one level teaspoonful of table salt and one-half teaspoonful of baking soda for each quart of water. A number of quarts are required each day. The only limitations on the amount consumed is the ability of the patient to consume the saline solution. Since great thirst accompanies serious burn injury, it has been found that patients will voluntarily consume a sufficient amount of the solution, which is quite palatable. No other drinking fluid is permitted in the first few days following injury.

It is pointed out that as much as ten liters of the hypotonic salt solution have been drunk in the 24-hour period by adults who have been severely burned. Since salt solution has been substituted for water, as a drinkable fluid, no burned person who has lived for longer than three hours after being admitted to the hospital has suffered from anuria. The "early toxemia phase" of burns has also failed to appear and the osmotic concentration of the plasma electrolytes has been well maintained.

It is also noted that the findings are of particular importance in a period of war emergency, since it is estimated that in the event of atomic bombing about 60 per cent of the surviving bombed population might suffer from burns. This figure, moreover, does not account for injuries other than burns in which shock also might be present.

Sodium PABA in Atopic Dermatitis

The therapy of atopic dermatitis has always been so difficult and unsatisfactory, says A. L. Weiner (*J. Investig. Dermat.* 15:295, 1950) that any method of treatment which appears to be promising should be recorded. On this basis, he reports his experiences with the administration of sodium para-aminobenzoate to patients with this resistant condition. In summarizing his findings, Weiner states that 16 patients with chronic atopic dermatitis have been treated with sodium para-aminobenzoate, 2 grams every two hours administered orally. For the most part, only simple topical remedies have been used concomitantly. The response thus far in approximately one-half of these patients has been excellent with diminution or disappearance of the infiltration in the involved areas and reduction or cessation of the pruritus a rather constant effect. In about one-fourth of the patients, there has been initial improvement but subsequent relapse which did not respond to continued treatment. In about 25 per cent of the cases, the effects of this therapy were unsatisfactory or equivocal. Where the therapy is effective, it apparently must be continued indefinitely, or at least over long periods of time, although this point needs further evaluation. From these preliminary observations with this small series of patients, sodium para-aminobenzoate therapy appears to be of value in the management of patients with atopic dermatitis.

Parenteral Multivitamins for Acne

A group of 25 patients with acne were treated by P. R. Kline (*Arch. Dermat. & Syph.* 62:661, 1950) over a period of eight months with intramuscular injections of a parenteral multivitamin preparation (containing both water-soluble and oil-soluble vitamins) in aqueous solution. The response to treatment was "excellent". Twenty-four patients showed satisfactory improvement, the condition of only one failing to improve during the course of therapy. The rate of improvement in general was much more rapid than Kline found it to be before using the multivitamin injections. It was in the cystic acnes that the most rapid response was noted. A pronounced regression was noted after three to six injections. This result was in direct contrast to the poor results in cystic acne reported when large doses of vitamin A were given orally. Several of these patients showing an excellent response to the multivitamin injections had had previous prolonged intensive therapy with local applications, vaccines, hormones and roentgen rays given by competent dermatologists. The solution was well tolerated in over 500 injections. In contrast to the effects of oral therapy, there was no pronounced tendency to relapse after the parenteral aqueous therapy was discontinued.

Acetylmethadol-New Pain Reliever

According to *Science News Letter* (59:15, 1951), success with a new drug for treating morphine addicts was reported by H. Fraser and H. Isbell at the Boston meeting of the American Society of Pharmacology and Experimental Therapeutics. In addition to this application, the drug may also have great military and civilian value as a pain-reliever in first aid treatment. Its advantage in such cases is that it can be taken by mouth, instead of having to be given by hypodermic injection. It takes effect quickly and the effect lasts from 30 to 48 hours.

The drug is called acetylmethadol and is related to one of the new pain-relieving drugs, methadone. It seems to be better than other drugs used

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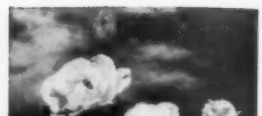

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to help morphine addicts taper off from morphine because its effect lasts longer and only one dose a day need be given, instead of three or four doses of morphine. The new drug is addicting, like morphine, so its use must be carefully regulated. Until further trials have been made, it should not be fully accepted for relief of pain. A further advantage of acetylmethadol is that it is a synthetic chemical which could prove an excellent substitute for morphine and other opium derivatives for which the United States is dependent on imported supplies.

Ascorbic Acid and Corneal Ulcer Healing

The influence of ascorbic acid on the healing of corneal ulcers has been investigated clinically by T. A. S. Boyd and F. W. Campbell (*Brit. Med. J.* 2:1145, 1950). In their study, 51 cases of small acute corneal ulcers were examined, and healing time ascertained by instillation of sodium fluorescein under standard arbitrary conditions. Approximately half the patients received 1.5 Gm. of ascorbic acid daily; the remainder were given control tablets. Deep ulcers healed significantly more slowly than superficial ulcers. The administration of large doses of ascorbic acid had no significant effect upon the healing time of superficial ulcers, but significantly accelerated the healing of deep ulcers.

It is suggested that there may be a localized area around the site of regenerating corneal collagen where the ascorbic acid level falls below the optimum for rapid healing. Raising the general ascorbic acid level with massive doses increases the local rate of replacement.

It was also noted that pyorrhea occurred significantly more frequently in patients with corneal ulcers than in others with non-infective eye complaints.

Formaldehyde for Warts

The value of formaldehyde, in the form of an ointment containing 3.0 to 4.0 cc. of formalin in an oxycholesterol-petrolatum ointment base, in the treatment of warts is indicated in the report of F. W. Lynch and J. M. Karon (*Arch. Dermat. & Syph.* 62:803, 1950). On the basis of their findings, these dermatologists believe that formaldehyde in ointment deserves a place in the treatment of warts until more effective measures are developed. Formaldehyde therapy is recommended for large or numerous periungual warts (where electrosurgery or radiotherapy might leave unsightly permanent deformity of nail or periungual tissue) and for palmar and plantar warts so numerous as to make radiotherapy too time consuming or which have previously received radiotherapy, with contraindication of its further use thereby. Frequently the treatment was useful even when it failed to cure or was not continued to complete success. Shrinkage in the size of the lesions (especially when periungual) or diminution in their number (especially when plantar) made it possible for us to utilize electrocautery or radiotherapy in some instances in which such treatment would previously have been impractical.

Fradicin-Antifungal Antibiotic

Recently several reports have appeared concerning a new antibiotic active against various saprophytic and pathogenic fungi. Much of the data on this antibiotic has been summarized in the *Journal of the American Medical Association* (144:850, 1950). According to this editorial, while working with cultures of *Streptomyces fradiae*, microbiologists at Rutgers University prepared neomycin, a complex antibiotic active against both bacteria and Actinomycets. They found that 30 to 70 per cent of its activity is due to "factor X." Further studies brought out the fact that "factor X" is made up of two entities, one of which is antibacterial and the other antifungal. This latter fraction they have named "fradicin." From one liter of soya-peptone culture filtrate, about 50 mg. of fradicin may be extracted in the form of a light tan powder. Tested against *Staphylococcus aureus* or *Escherichia coli*, fradicin is wholly inactive. It has an antibiotic titer of 750,000 units per gram against *Penicillium notatum* and a titer of over 1,000,000 units per gram against *Ceratostomella ulmi*. Other common fungi have intermediary susceptibilities. Fradicin is soluble in numerous organic solvents. It is but slightly soluble in water, but concentrated alcoholic solutions of it can be dropped into water without precipitation. It is stable at 100°C. for 30 minutes at pH 7.0. The high antibiotic titer of fradicin, when tested against saprophytic fungi and against plant and animal pathogens, suggests its possible use in plant and animal husbandry and in certain limited fields of clinical medicine.

Drugs for Motion Sickness

In the *Journal of Aviation Medicine* (21:424, 1950), H. J. Chinn and his associates discuss the evaluation of a number of antihistaminic and antispasmodic drugs for their effectiveness in prevention of motion sickness produced by simulated turbulence in the airplane, training flights and the swing. A mixture of 50 mg. of diphenhydramine hydrochloride (Benadryl) with 0.65 mg. of scopolamine was shown to be the most effective. Scopolamine (hyoscine) aminoxide (Scopodex) is of the same order of effectiveness. Dimenhydrinate (Dramamine), diphenhydramine hydrochloride, scopolamine and a mixture of half-doses of diphenhydramine hydrochloride plus scopolamine afford good prophylaxis. Several drugs giving fair, slight or no protection are listed. The investigators state that effective prevention of motion sickness is not related to antishistamine potency. It is probable that the degree of central anticholinergic action determines in large part the effectiveness of the drug, although other actions cannot be excluded. All strongly effective compounds in the antihistamine group have two carbocyclic rings attached directly to a common carbon.

Caffeine in Hypertension

According to J. Sebok (*Deutsche med. Wochenschr.* 75:1067, 1950) it is the accepted opinion that caffeine causes a general vasoconstriction and an increase in blood pressure. In the brain, heart and kidney, it produces vasodilatation. Sebok attempted to ascertain whether the hypertensive effect of caffeine was a degree sufficiently great to cause caffeine to be withheld from patients with hypertension. Administration of 0.05 or 0.1 Gm. of caffeine to 31 patients with hypertension had the effect of lowering the systolic and the diastolic blood pressures. Maximal decrease in pressure was usually observed from 40 to 50 minutes after the administration of caffeine. In about three-fourths of the patients the pressure had not returned to the initial values two hours later. Administration of caffeine in controls with normal blood pressure produced either a slight elevation in pressure or a reduction, as in the hypertensive patient. These investigations and the fact that caffeine dilates the coronary vessels and thus improves the metabolism of the myocardium suggest that there is no justification for interdicting either caffeine or coffee in patients with hypertension

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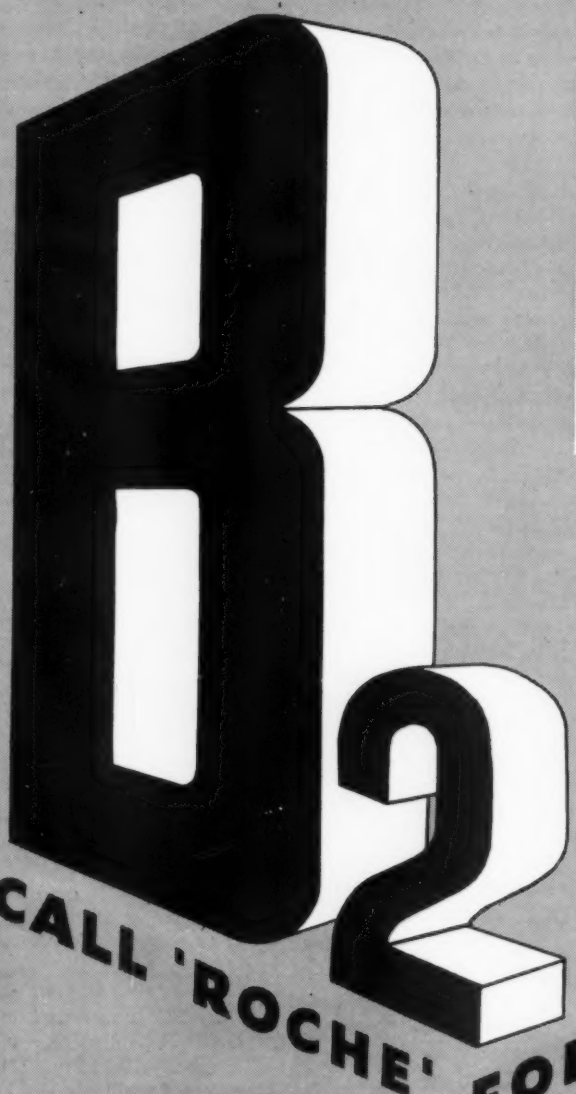

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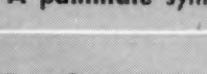

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ABREAST OF THE MARKETS

NEED ARISING FOR CHANGE IN PRICE STRUCTURE; MANY IMPORTED ITEMS BECOMING SHORT, RELIEF EXPECTED

The price changes quoted in this issue are by no means final, as far as the so-called price freeze is concerned, nor are they necessarily complete. By the middle of February, a month after the price-freeze had taken effect, it had become increasingly evident that many changes would have to be made in the price control structure. Replacement costs on imported botanicals and essential oils continued to advance, while dealers in the United States were severely restricted from moving their own prices ahead accordingly. By the beginning of March, business had been seriously disrupted in botanicals because dealers were forced to turn their backs on high-priced offerings from abroad. Shortages were also cropping up in the essential oils for the same reason, and from day to day discrepancies in the price structure became more blatant and seemed to call for some kind of relief from the Office of Price Stabilization as soon as new compromises could be worked out.

Rather than establish an over-all ceiling in the various markets, the Government had instructed the individual firms to establish their own ceilings on each item they sold, based on the highest figure at which the commodity had been quoted during the "base period" from December 16 through January 25.

In the latter part of February the dealers were virtually adjusting their prices from day to day in order to meet the March 1 deadline. If they had made no sale in a certain item during the base period, they were instructed to set the price ceiling at the highest quotation which had been offered to the trade at that time. And if there had been no quotation on that particular item, the dealer then had to set the price at the level of the last published figure. The selling price took precedence over everything else. If a commodity, for example, had sold at $2.25 a pound during the base period, and the published figure had been $2.50, the $2.25 price at which the sale had actually taken place automatically became the ceiling price.

These few regulations have been mentioned merely to suggest the mammoth task confronting both the government authorities and members of the trade in bringing the price freeze to a reality.

Although there were signs of definite shortages in both the botanical and essential oil fields, there was still adequate coverage of stocks by the latter part of February. No one essential oil or botanical house could sell every raw material, for it turned out that any one firm had to relinquish orders on a few items which others, whose ceilings were higher, could fulfill. A consumer could buy almost any item if he shopped around until he found it.

Among the discrepancies in the essential oil field, was the freedom from control of both peppermint and spearmint oils, both of which had no price ceilings. Because the plants of these oils are grown in such profusion and have become such a large industry among the farmers, they are now considered a full-fledged farm product. These oils are therefore awarded the same privileges as all farm produce in respect to parity prices. A conflicting report has it that the oils will be placed on the control list after the new crop oil has been collected this summer.

While some members of the trade disagree with this policy, others consider it an equitable arrangement, because of the magnitude of the peppermint and spearmint crops, as compared to other less important oils, like wormwood, which is contingent on the lumber industry for its source.

As an answer to the shortages developing in imported oils, spokesmen in the trade believe that all essential oils, both imported and domestic, should be controlled on a sliding scale, allowing the ceiling prices to advance in the same ratio that the replacement costs go up.

In spite of the many differences and problems, however, all the dealers have displayed a maximum effort to comply with the regulations, and judging from what has already happened—the failure of some houses to buy certain commodities when the prices from foreign sources exceeded the ceiling figure—speculation in the market will probably fall off to a great extent.

Most spokesmen believed the most favorable way of handling the price control structure would be to permit each dealer to make a fair and normal profit on each commodity. If, therefore, ceilings on each item should be established on a sliding scale, the price ceilings as such would cease to be rigid and would be raised or lowered in escalator fashion, depending on replacement costs.

In general, the dealers reported having ample stocks on hand of most of the commodities and optimistically felt that they could fall back on these supplies during this intermediate period until business conditions have been ironed out.

Of course, it is too early yet to determine the reaction of the rest of the world to the price control in this country. At the present time Europe seems to be purchasing oils and botanicals at prices above the U. S. ceilings, when there is a need for it. The overflow of lower priced material then appears on the American market. The belief here is that European countries will continue to buy from foreign exporters at higher-than-ceiling prices only so long as they have enough money to support the transactions. Illustrating the returning importance of Europe as a production and purchasing area, the *New York Journal of Commerce* recently stated, "Recovery in the manufacture, distribution and export of pharmaceuticals and fine chemicals in Europe has been slow, but the post-war growth has been of such a steady nature

(Continued on page 386)

• Prices quoted in this section were current on the first of this month.

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GLYCERINE, ALCOHOL SUPPLIES ARE TIGHT; MENTHOL IS QUIET, WITH BRAZIL ONLY SOURCE; MERCURY DECLINES

The price of glycerine remained at 55¼c, although a severe scarcity had developed, by the end of last month. Many of the larger consumers were attempting to maintain their glycerine requirements either by buying refined material regardless of the price asked or by buying crude glycerine, refining it themselves or having it refined for them. As a result the smaller consumers were feeling the pinch even more sharply because so little crude glycerine was left after the large consumers had met their demands, and what glycerine was available was usually priced above their ability to pay.

Alcohol in Tight Supply

There was a definite scarcity in alcohol by the end of February, in spite of the reported offerings made by foreign countries to the United States for sizable quantities of the material. In most cases the foreign quotations were set at a higher level than the market in this country could handle in view of the price ceiling. Denatured No. 1, special alcohol was quoted on spot between 73½c and $1.14 at that time.

The molasses situation is still confused. An option was open to the British to take the first lots of 6,000,000 gallons of new crop molasses from Cuba in the latter part of February or the early part of this month. In addition, it is expected that Cuba will retain a sizable portion for the distilleries there (the crop may be over 300,000,000 gallons this year, according to reports). Molasses is now quoted at 20c a gallon.

Menthol Quiet, Supply Limited

Menthol declined noticeably in February from $14.50 of the previous month down to $13.75, chiefly because the large consumers had apparently filled their needs for many months to come. If there should be a renewed interest in buying, however, the price will probably start upward again, since the only source of supply at the present time is Brazil. No menthol at all is arriving from China at present, and Japan is not expected to offer any sizable quantity of the item until later in the year following the distillation of a new crop of peppermint oil.

Arabic Gum Very Firm

Little Arabic gum is available from the source (Sudan), reportedly because of labor troubles. The powdered USP Arabic gum was quoted last month between 18¼c and 19¼c, while the sorts, amber ranged between 15c and 16c.

Mercury & Salts Stabilized Temporarily

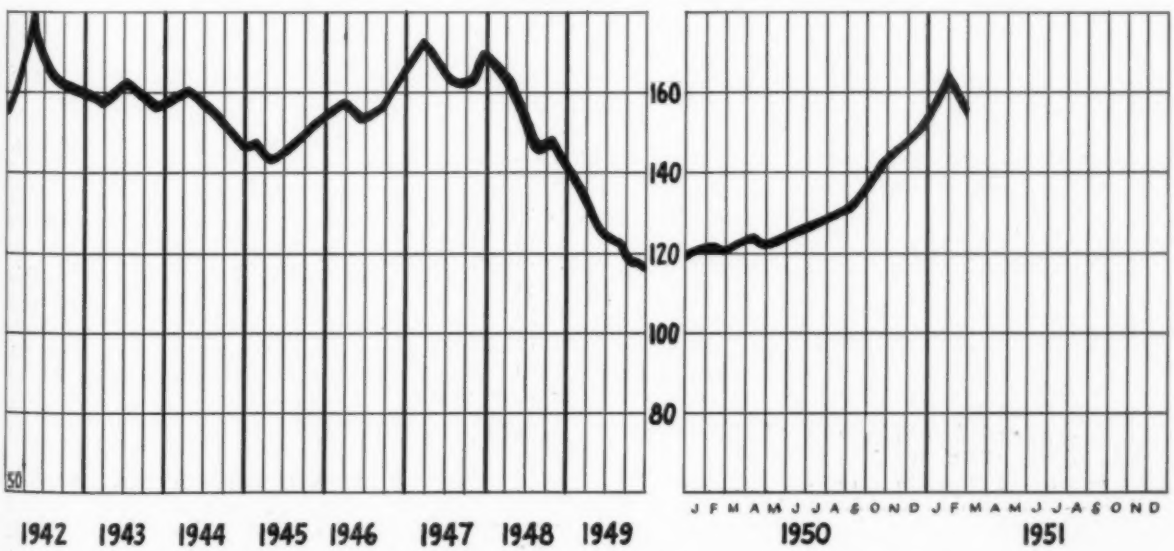
Mercury metal from Spain fell off last month, having dropped from the previous quotation of $230 a flask to the current $220. Future developments in the price trend are impossible to determine, and hinge to a great extent o whether or not the quicksilver mines in the United States are reopened. They were closed after the second world war when the price fell so drastically and as yet have not been opened to any great extent. It has been said that a floor price may be established in order to prevent too wide a fluctuation in the price.

On January 25 several firms advanced their prices on mercurial salts, based on the rising cost of the metal itself, but shortly afterwards they rescinded the new quotations in compliance with the price freeze order and restored the prices which had been in effect previously. It remains to be seen how stable these salts will be, a condition which of course depends entirely on the price trend in mercury metal. Calomel is set at $4.02; red precipitate, powdered, at $4.37; and white precipitate at $5.00.

Carnauba Wax Becomes Scarcer

Shipments of carnauba wax from Brazil were very small by the end of February, a development which may have occurred as a result of increasing resistance on the part of buyers who have balked at the high prices. At the beginning of last month large shipments of the wax arrived in the United States from Brazil, but dealers made very few purchases. Consumers of the wax, moreover, were faced with the problem of not knowing whether or not they could lift the ceiling prices on their finished products, in the absence of a roll-back of the tax prices themselves.

50 Raw Materials—Weighted Price Index. 1926 = 100.



The price index of fifty commodities for February declined from 166.4 to 153.0.

FEBRUARY PRICE CHANGES

UP

Almond Oil, Sweet 10c
Apricot Kernel Oil 4c
Arabic Gum, Powd., USP ½c
Sorts, Amber 1c
Balsam Peru 55c
Balsam Tolu $1.25
Bois de Rose 50c
Cananga Oil, Native $1.75
Citronella Oil, Ceylon 35c
Dill Oil 10c
Juniper Berry Oil 75c
Lavender Oil 50c
Origanum Oil 60c
Papain, Pure, Powdered 20c
Peppermint Oil, Natural 25c
Redist. 50c
Pimento Berry Oil 50c
Pimento Leaf Oil 90c
Rosemary Oil 25c
Sarsaparilla Root 3c
Wormseed Oil 10c
Wormwood Oil 50c

DOWN

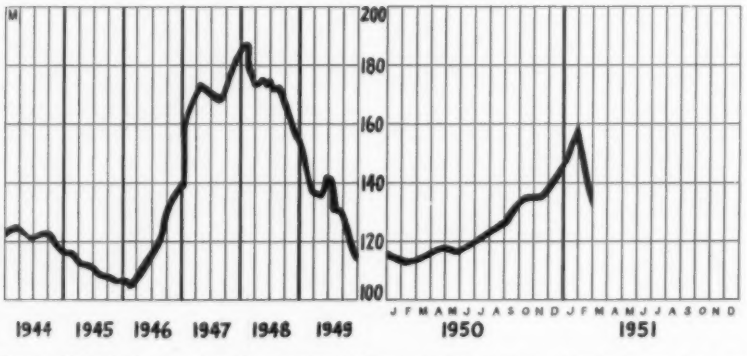
Alcohol, Denatured No. 1 Spec. 17c
Ethyl, USP 190 Proof 9c
Bay Oil 15c
Birch Tar Oil, Rect. 5c
Cascarilla Oil $3
Cederwood Oil 5c
Grapefruit Oil 25c
Lime Oil, Distilled 50c
Menthol, Natural 75c
Mercury $10
Orris Oil Concrete $1.10
Vanilla Beans, Mex. Cuts $1
Mex. Whole 75c
Wintergreen Oil $2

By the middle of the month many dealers had withdrawn their offerings from the market, awaiting the decision of Washington on the ceiling arrangement.

The 1950-51 yield of carnauba wax in Brazil is expected to be about 11,000 metric tons, according to the *Foreign Commerce Weekly*, with the estimated production by states as follows: Piaui, 5,000 tons; Ceara, 4,600; Rio Grande do Norte, 700; Bahia, 500; and Paraiba, 200.

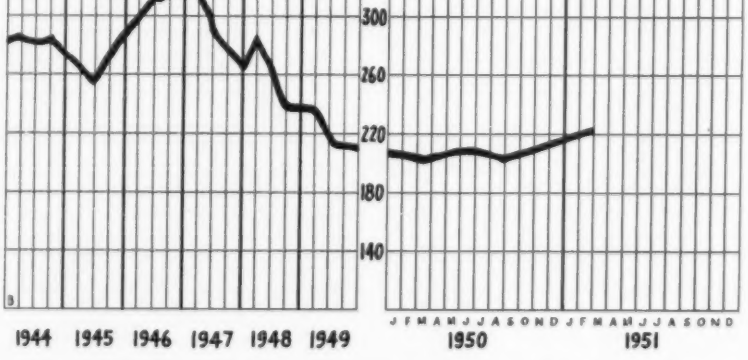
There was a very small carry-over of stocks from 1950, which, compared to the usual minimum carry-over of 2,500 tons, was an important factor in producing the current tight market. The report states that the volume of exports may have reached an all-time high in 1950, exceeding 12,000 tons, with 80 per cent of the total being shipped to the United States. The barter deals which were transacted in the wax during the latter part of 1950 added greatly to the volume of exports.

15 Medicinal Chemicals—Weighted Price Index. 1926 = 100.



The medicinal chemicals index declined from 160.3 to 131.5. Alcohol, menthol, and mercury were lower.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index advanced from 220.7 to 222.4. Balsam tolu went up.

Imported Items Becoming Short

(*Continued from page 383*)

that the United States may in the near future be supplanted there as leading supplier." Quoting Edward Libber, European division manager of Schering Corp., the report continued, "Through ECA these countries have obtained supplies, rebuilt factories, obtained equipment and with the European Payment Plan exchange has been available.

"Despite the fact that American-made products are still considered of top-grade quality, these countries have been able to find expanding markets for their cheaply produced fairly good to good-quality merchandise. Most countries in Europe still suffer from a dollar shortage, and they are seeking these dollars in a free market. This factor, in addition to the higher American prices has led them to look for markets of closer proximity."

Podophyllin Remains Firm

Podophyllin ranged between $14.50 and $15.45 last month. One of the causes for the firmness of the item is the heavy buying of the material by England. This country usually purchases the raw material in India but turned to the United States for American mandrake root when the Indian quotation went up too high.

Balsams Up Sharply

Balsam Peru went up by as much as $1.05 last month to the current range between $2.05 and $2.25, and balsam tolu advanced by $1.25 to the range between $6.25 and $6.75. In both cases stocks at the origin were quite low while replacement costs were on the high side.

Vanilla Beans Sluggish

There has been very little activity in vanilla beans, principally because the price ceilings imposed on them in this country are lower than the replacement costs, especially in the case of the Bourbon variety. This condition has brought up the question of whether vanilla beans should be classified as a food. Mexican cuts last month were priced at from $5.50 to $6.00 and the Mexican whole beans, from $6.50 to $7.25. According to reports, the new crop of Mexican beans is not going to be very large, which indicates a firming of the market in view of the small size of the old crop.

Bergamot Oil Restricted by Ceiling

Although bergamot oil was quoted from $7.30 to $8.00, last month, very small amounts of the oil were sold because of the ceiling price imposed on it and because of the much higher shipping price established by the Consortium in Italy. This latter figure was considerably higher than the imposed ceilings, and many dealers were forced to drop out of the market. There were small lots of carryover oil, and the long-range picture did not look very bright by the end of the month.

Cod Liver Oil May Advance

Although there was no price change in cod liver oil last month, one dealer has expressed the belief that it may go up in the near future, in view of the heavy buying of Norwegian oil by the European countries. Since, according to reports, this particular fish oil is one of those not controlled by the price ceilings now in effect, any price advances in Norway will be reflected in the spot quotations.

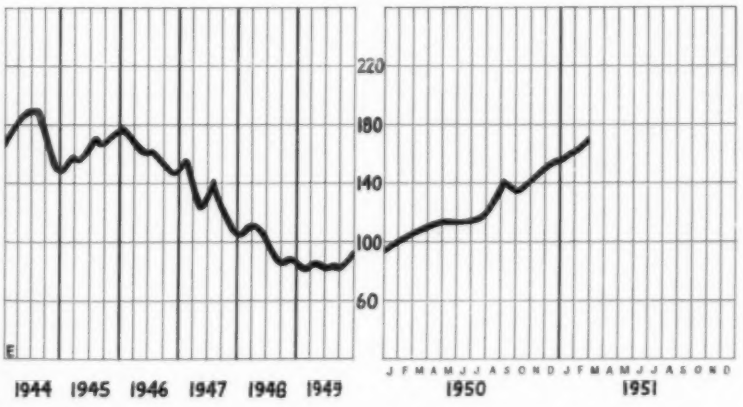
Peppermint Oil Higher

Natural peppermint oil advanced 25c in February to the range between $7.25 and $7.80, and the redistilled oil went ahead 50c to $8.00. Judging from reports that peppermint oil, as well as spearmint oil, will not be confined by a ceiling price but will be governed as a farm product with a parity, or floor, price, these oils will probably advance more if the prices continue upward in the country.

Lime Oil Declines 50c

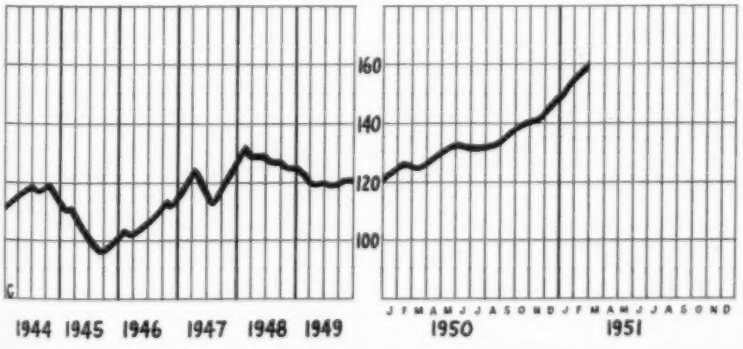
Distilled lime oil fell off 50c during February to $6.50, reflecting the quiet tone of the market at the present time. Demand for this, and for the other citrus oils has been rather restrained but is expected to pick up considerably during the Spring months when producers of soft drinks are busy preparing for the consuming season.

15 Essential Oils—Weighted Price Index. 1926 = 100.



The essential oils index advanced from 163.8 to 169.8. Bois de rose, cananga, citronella, lavender, and peppermint oils were higher.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100.



The cosmetic raw materials index advanced from 155.0 to 159.6. Balsam peru and balsam tolu went up; alcohol and menthol went down.

Lemon Oil Very Scarce

There was virtually no California lemon oil available last month, and those dealers who were handling it set the range from $4.25 to as high as $5.50. With the Messina oil, the price at the origin was so high that most dealers were unable to buy it under current restrictions.

Citral, Eugenol Higher

Following the advances of lemongrass oil and clove bud, the respective derivatives, citral and eugenol, have reflected the increased prices, the former being quoted at $6.75 and the latter at $3.45.

Lemongrass Oil Demand Heavy

Lemongrass oil like many other commodities, is suffering from high replacement costs at the origin. Demand for the oil is high, but some suppliers are not able to meet shippers' prices in India because of the established ceiling prices in the United States.

Citronella Oil Up 35c

Spot quotations on Ceylon citronella oil advanced to $2.45 in February, with reports that prices at the origin were so high many dealers were unable to enter the market.

Clove Oil Future Doubtful

Although clove oil was quoted between $2.85 and $5.00 last month, there was some talk in the trade of minimum prices being established at the $5 level. If this proves to be true, clove oil, like other items affected by high origin costs, would be beyond the reach of local dealers.

Lavender Oil in Tight Supply

Lavender oil was 50c higher in February, ranging from $4.50 to $8.00 and seemed to reflect the heavy buying that has been going on for the past several months. Spot stocks are quite low but spokesmen in the trade express the belief that the next crop, which is expected in April, will help ease the short supply. Some sources go so far as to say that dealers have bought so heavily that they may have sufficient stock to see them through for a long time. This may tend to have a softening effect on the future prices if demand falls off.

Anise Oil Situation Improved

No price change took place in anise oil last month, the quotation remaining between $2.25 and $2.60. Although supply of the oil was not over-abundant, in spite of recent replacements, dealers were having no difficulty in satisfying the demand.

Quoting Scientific Publications

(*Continued from page 367*)

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Conclusion

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REFERENCES

1 17 U.S.C.A. Sec. 1 et seq.
2 Section 1
3 Section 25
4 Section 28—Underscoring supplied
5 *Anschl v. Puritan Pharmaceutical Co.*, 61 F. (2) 131
6 Ball, "The Law of Copyright and Literary Property," p. 260
7 *Henry Holt & Co.* v. *Liggett & Myers Tobacco Co.*, 23 Fed. Supp. 302
8 *Toksvig* v. *Bruce Publishing Co.*, 181 F. (2) 664
9 *Supra*
10 *Henry Holt & Co.*, v. *Liggett & Myers Co.*, supra
11 *Mutt* v. *National Institute*, 31 F. (2) 236

Technical Service in Bulk Pharmaceuticals

(*Continued from page 325*)

then ask ourselves what pharmaceuticals already known, for example vitamins, minerals, salts, buffers, etc., might be admixed with this new compound to yield various pharmaceutical products and what are the incompatibilities which might arise? After we have finished our paper study of the chemical in question, we are in a position to evaluate the amount of application research needed and design the approach which is going to be required in our Technical Service laboratory for the introduction and sales development of the product. The object is to answer the inquiries and questions which will undoubtedly arise when the material is placed on the market, both from within and without the company. Naturally, at this point after our experimental work has been organized on paper, we attempt to assign some order of priority so that we may be able to supply the technical information and answer the questions which will be forthcoming initially.

To give an example of this paper study, we can refer to the recent development of vitamin B_{12}. In the early days following the isolation of vitamin B_{12}, it was apparent from the limited chemical and clinical data available that vitamin B_{12} would be employed initially in an injectable form for the treatment of pernicious anemia and other macrocytic anemias. Thus early application work was directed towards the methods of processing involved in this type of dosage form, and stability studies in solution as regards heat, light, pH, preservatives and parenteral diluents. One could also infer early in the history of this vitamin that probably it would eventually be employed therapeutically in many formulations in which various liver products were currently being used and be added to various dietary supplements and multivitamin preparations in the role of a true vitamin. At this time, B_{12} appeared to be therapeutically ineffective following oral administration even in massive doses. Even though the need in human nutrition had not yet been demonstrated, nor is it now, and the daily requirement was not established, early animal studies in rats and chicks, together with the known etiology of pernicious anemia made it seem apparent that the human need and requirement would some day be demonstrated. For our purpose, we assumed that the widespread oral use of vitamin B_{12} would eventually come and the past year has shown that this assumption was valid.

From the various types of dosage forms containing liver products, from hematinic and hematopoietic preparations and multivitamin products, both oral and parenteral, the possible formulations and processing techniques involved in the potential future handling of vitamin B_{12} in such dosage forms could be postulated and explored. From this we could determine by practical application research the processing techniques as regards heat, light, pH and solvents which might adversely affect vitamin B_{12} in various liquid preparations, both oral and parenteral. We could prepare a list of all those vitamins, minerals, diluents and pharmaceutical compounds which might possibly come in contact or be admixed with vitamin B_{12} in dry and liquid pharmaceutical formulations for oral use. From a paper study of vitamin B_{12} in this manner we set up the necessary experimental studies as regards stability and compatibility which Technical Service would have to investigate and assigned a logical priority to them. This program brought up important

questions which were referred back to our various research groups.

While this work was being done, our chemical and biochemical research groups continued to provide additional data regarding the chemical, physical and biological properties of vitamin B_{12} and our clinical research group added to our supply of information as regards the clinical use of this vitamin. Simultaneously our technical information staff supplied us continually with the latest published technical and clinical information and our market research group advised us as to what dosage forms, from our pharmaceutical customers' viewpoint, would probably be most important for consideration as regards the addition of vitamin B_{12}.

Applied research data is the important key at this stage of the development because usually the sales department wishes to place the product on the market at the earliest possible date. While stability and compatibility studies carried out at room temperature provide the most accurate data, generally such studies consume more time than is available. Probably the most important problem which confronts the Technical Service Department at this point is the development of valid and reliable accelerated stability tests. In this connection, after preliminary stability studies are carried out, we investigate a number of accelerated storage conditions and attempt to correlate them with room temperature studies which have been initiated at the same time or at an earlier date. Oftentimes, after we have selected what appears to be the most suitable accelerated tests, the correlation to room temperature values is not too close. Thus, at best our accelerated stability studies provide us with a qualitative indication of stability under specific conditions and in the presence of other pharmaceutical compounds by comparison to control samples. We cannot at this state indicate the actual stability and necessary averages required of a product stored under normal conditions. Thus, the accelerated studies are a qualitative answer and point out early in the work those compounds or types of compounds which we should regard suspiciously and which should be studied more fully under normal storage conditions before recommending their admixture with the product in question.

A second problem which is almost always present at this stage of the development concerns standardization of the product. Usually the product is being studied simultaneously by the pilot plant group of the Research Department. There, in an attempt to place the product on a large scale production basis, process changes are often necessary. These changes may alter the final form of the product and in some cases, if the product happens to be a concentrate rather than a pure crystalline material, these changes may be of paramount importance. Thus the Technical Service Department often finds itself in a position where it must initiate application research work all over again because changes in the process for manufacture of the product have altered the final form. On occasions, it is not unheard of to make a number of false starts before the product is finally standardized and application research work can begin on a sound basis. While such false starts may not provide information of lasting value, they generally tend to modify the program so that it is ultimately simplified and more easily carried out.

Changes in production may alter the product to such an extent that it no longer has the utility of application which is most desirable. In this respect, Technical Service must consequently evaluate various products developed by the Research group as regards their suitability and applicability and demonstrate their inherent general usefulness as regards marketing. Such a situation is referred promptly to the research group for reconsideration.

It is difficult to place a definite period of time for the completion of this first phase of the development of a new product and it will vary directly with the pressure that is placed upon the Technical Service Department by the sales introduction date designated by the Sales Department. In some cases this preliminary phase may last for periods in excess of a year, while on other occasions it must be completed in a matter of months or even weeks.

As we approach the second phase, which begins with the introduction of the product on the market, additional duties and problems confront the Technical Service group. While compatibility, stability and formulation studies are continuing at an increasing tempo, technical information and assistance based on the data already obtained must be prepared in a useful form for the introduction of the material by the Sales Department. This work takes the form of writing and preparing Technical Service Bulletins for customer distribution and the supply of technical information for the advertising and promotion phases of the introduction. Preliminary meetings are scheduled with groups of sales representatives to advise them of the advent of the product. Often times the data, though sufficient for the introduction of the product as regards safety and clinical application, is not as complete and expansive as might be desired at this time and it is necessary often to prepare technical information when such data is of a preliminary nature so that certain applications can at most be inferred. Occasionally, the initial contacts of interest in the form of letters are prepared by this department under the direction of the Sales Development group.

When the product is introduced and the pharmaceutical industry becomes aware that the product is available, the assignments of the Technical Service Department become manifold. At this phase perhaps the biggest difficulty encountered by the members of Technical Service is the sudden deluge of inquiries which arrive. These inquiries take the form for the most part of requests for general information concerning the nature of the product and how it is intended to be used and result either from advertising media,

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publicity releases or from customer contacts by sales representatives. These queries can be readily handled by technical service bulletins prepared in advance and only present a problem by virtue of their volume. The real difficulty at this time stems from those inquiries which contains requests for specific information either with regard to stability, compatibility with other ingredients or the addition of the product to specific formulations. It is often necessary to answer in cases where technical information is not available. We usually are able to offer an opinion as to our thoughts based on preliminary data and experience with analogous compounds. We indicate as a rule that we shall investigate the compound in question in the near future, particularly if a study of the compound will provide knowledge of general interest. In such cases we advise additional testing as regards stability and compatibility prior to formulation.

At this point you begin to learn just how complete and effective your original paper study really was. It is impossible in the beginning to envision all the potential uses and formulations for the new product and these inquiries generally confirm this fact. As an example, to the best of my memory, our original compatibility study list contained some twenty-five compounds which we planned to investigate in combination with vitamin B_{12} and to which we had assigned a priority of importance. Two months after our product was introduced, the list had grown to somewhere near sixty. Although many of these were not of major importance, there was substantial justification for customer interest in these additional compounds.

Shortly after the introduction of the new product, it usually becomes necessary to revise the application research program. Because of the customer inquiries and contacts and the trends becoming obvious from clinical and chemical research in current literature reports, the original conclusions as to the application of the product will become modified to some extent. We usually find that more formulation and dosage from work is required than was initially planned.

During this early period of introduction when most of our members are hard at work on application research work in the laboratory, we face an added assignment which is delegated by the Sales Department. It is at this point that technical men are required in the field to call upon and discuss with our customers the product under consideration. Hence, this period is indeed a very busy one because while men are needed in the field, considerable work is going on in the laboratory and the additional burden of technical correspondence and writing is at hand.

The time required for this second phase, which begins with the introduction of the product, will usually extend some three to nine months. The problems and difficulties facing the Technical Service group during this period are inherent with the new product introduced and being developed. Some by their very nature develop very smoothly, others are one continual procession of crises.

If it is a product like vitamin B_{12}, which is fundamentally new and which has new uses and new applications, then the problem is a very complex one, as just described. If the medicinal is a revised or modified form of an older product, as for example caffeine, theophylline or aminophylline, then the work and problems involved are materially less complicated and in general the phase following introduction is not so long. Vitamin A would be considered somewhat more complex in scope because it arises from a totally different source than the natural materials, but not as difficult as vitamin B_{12} since with vitamin A the clinical application and use phase is already established. The stability and formulation studies must be investigated.

Most generally the second phase, the introduction and early development, comes to a close and the third phase, the final stage to full growth, begins before it is actually realized. By this I mean that in order to determine when the second phase is over, it only becomes apparent when you look back upon the whole product development problem. You never realize it at the time it occurs. It can only be defined as that point when a majority of the application research work has been completed and the technical requests from the trade become more routine and are now translated into repeated sales orders. A definite production schedule and corresponding sales volume are firmly established. At this point, a number of technical bulletins are prepared and completed which stand without substantial revision for sometime. The clinical picture has become rather completely clarified and the use and application of the product becomes quite definitely established. To repeat myself, you do not realize when the second phase is completed and it becomes apparent only when you look back upon the development as a whole.

The third stage of the development of a new medicinal product, the final stage to full growth, still has its own peculiarities which are of lesser urgency and complexity than those of the first two phases. During this period, application research is concerned with very special problems and special formulation and dosage form work. While the product may still have a higher than average priority, formulation work in special fields of application and work with less important dosage forms are carried out. Special emphasis is placed upon improving the utility of the product itself as well as its diversity of application and a diligent search for new uses is made. As regards technical information, the time and opportunity becomes available to correlate all of the application research work data and to organize and compile it in a finished form. Now it is possible to gather together all the chemical and clinical information from all sources and to speculate on further developments and applications which seem probable in future years. When the major portion of the application research work is completed and all the data compiled, technical information in the form of bulletins are prepared for the Sales Department

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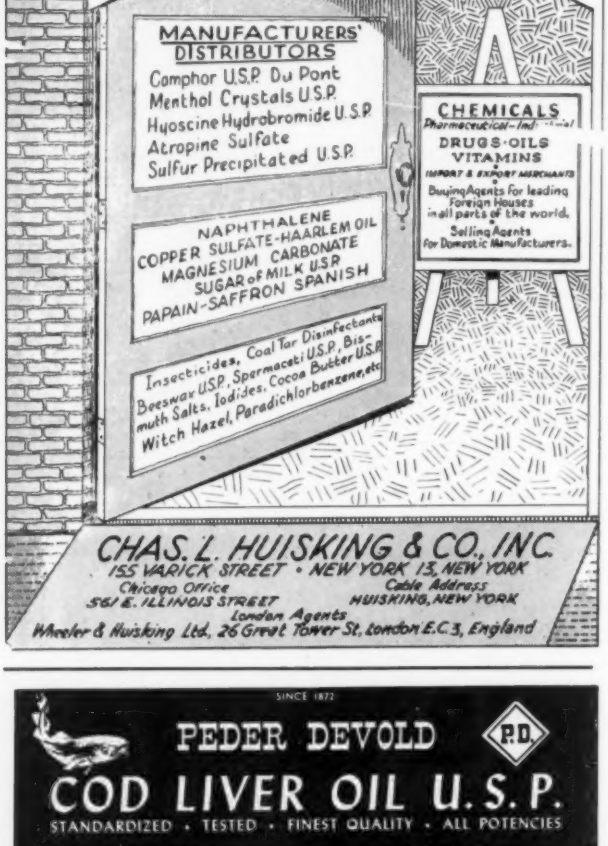

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with the hope that little or no revision will be required for sometime to come. At this period more time is spent in an analysis of various products on the market and our Market Research group will complete its survey.

While this routine may seem somewhat simple and standardized, it is quite variable from product to product and naturally depends upon the nature of the development and the product in every case. The procedure, however, allows for considerable flexibility of assignments between the various research groups and the Technical Service Department.

The whole plan is greatly complicated, however, by the fact that we are never concerned with just one product at any one time. At any instant a number of products in various phases of development are in process and it is necessary to carry on a number of these products at any given time. Naturally, all the products have a certain priority and in some cases several are advanced to the almost complete exclusion of others. As with many companies, we cannot always work on any one product as much as we would like or on as many as we would like because of staff limitations.

I might mention a few words with regard to the Technical Service problems as they relate to the sale of antibiotics in bulk. One might think offhand that the bulk manufacture and sale of antibiotics would provide considerable problems for the Technical Service group concerned with the pharmaceutical industry. Actually, the standard antibiotics give us much less difficulty in this respect. Primarily this is due to the fact that the common antibiotic dosage forms composed of penicillin, streptomycin, bacitracin, etc. fall within the scope of the Federal antibiotic drug regulations and are carefully detailed as regards stability, compatibility, formulation and testing by the volume entitled, "Compilation of Regulations for Tests and Methods of Assay and Certification of Antibiotic and Antibiotic-containing Drugs." Requests for technical information and assistance concerned with the application of these antibiotics can usually be handled by reference to this work. It must be indicated that the technical information contained in this volume as it pertains to stability, compatibility, formulation and tests and methods of assay was obtained originally for the most part from application research work by the prime manufacturers of these antibiotics and is of convenience now because of its availability.

For a new antibiotic of a new dosage form of a standard antibiotic, application research and dosage formulation work is still a requirement. When we are confronted with a proposal for a new dosage form which a manufacturer wishes to formulate and will ultimately submit for amending this regulation, we are able to supply information with regard to the physical and chemical properties of the antibiotics, compatibility and stability data and methods of formulation and testing which may be of interest to the manufacturer concerned. Occasionally, we actually carry out stability and formulation work on the proposed dosage form. In general, the application research and development

work on new antibiotic drugs and dosage forms are carried out by another group in our company whose information and results are available to us.

In conclusion, I would like to say a word about the personnel engaged in Technical Service work. There have been many attempts to outline the characteristics of men who make good application research or Technical Service men. In my limited experience with Technical Service, I have learned that if you discover a man who derives his greatest satisfaction, not from making a new finding, but from producing something of consequence out of the finding and who obtains his greatest reward in providing the technical stimulus and facility for the sale of a new product, then you will have uncovered a good Technical Service man.

Newer Emulsions in Cosmetics

(Continued from page 323)

and sometimes permanent lowering of viscosity, while the opposite seems to be true in water-in-oil emulsions containing a high concentration of dispersed phase.

Actually, much of the old thinking in regards to emulsions has had to be revised. It was once thought that emulsions had to be all one way or the other and that additions of water-in-oil emulsifiers to an oil-in-water system would weaken the system. This has not been found to be true. Certainly, in most cases such additions strengthen the system. Glyceryl monostearate which is water insoluble and therefore indicative of water-in-oil emulsifying properties actually strengthens most oil-in-water systems. In a broad general way I think that additions of strong oil-in-water emulsifying agents added to an oil-in-water system have a tendency to lower viscosities—due perhaps to causing the dispersed phase to be broken down to smaller particle size. It is therefore possible by judicious additions to control viscosities.

The most recent arrivals on the scene are the cationic emulsifiers, of which the quaternary ammonium compounds are the best known examples. Their use has perhaps greater limitations than do the other compounds already discussed, due to their incompatibility with soaps and with fatty acids as such in many cases. Their use therefore precludes the possibility of using any anionic compounds in conjunction with them. This would not only include soaps but almost all the gums as well. Their properties are such, however, that in spite of these qualifications they are rapidly coming into greater prominence. Many of them have bactericidal properties combined with low irritational properties—rendering them good possibilities for basical application and because of the positively charged lipophilic chain they are markedly substantive to proteins. Some of them are in current use as hair rinses, because this substantive property allows them to root the hair shaft so that it becomes more easily manageable after shampooing or after a permanent wave. Their use however could easily be extended to most emulsions, where acidic pH's and the removal of the emulsifier from the emulsion by contact with tissue

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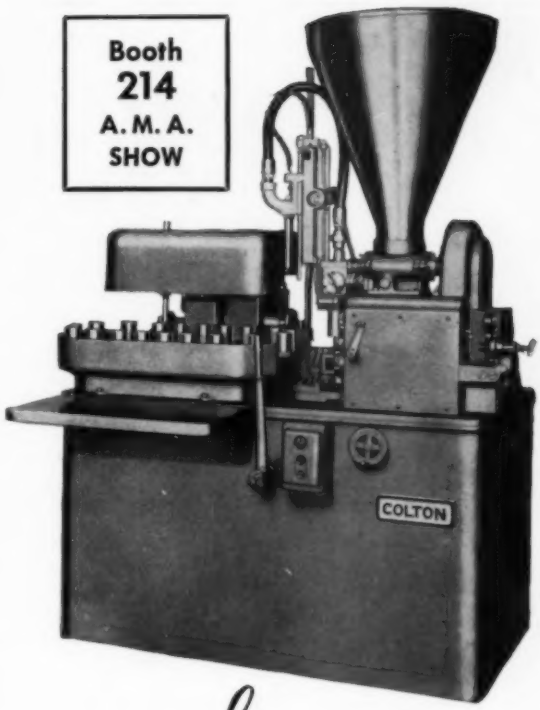

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Not to be outdone by Columbia University, associated with the Pulitzer Prize for Journalism, Manhattan College has come up with a surprise in bookmaking. Naturally the latter school takes less pride in its contribution than the former.

•

After stimulating the betting prices on college basketball games at least two former Manhattan players have blasted the theory that colleges can't teach a young man how to be successful in earning a buck.

•

Before they were apprehended the alleged "fixers" had run up a higher score than their team. This of course should not be misconstrued as an argument for Free Enterprize as opposed to Collective Endeavor.

•

A new investigation is already underway at other schools. This one has commendable motives: "If two collegians can influence the betting on basketball are there two more in science courses who can alter the odds on War?"

•

Probably because there's something epidemic about investigations, the N. Y. Fire Department is also under fire. Some folks are accused of making more money on the sale of no tickets than Rodgers and Hammerstein are making on "South Pacific."

•

Even the Sanitation Department faces a clean-up. Expectedly, indignant Department voices have already been raised in such denials:
"No self respecting street cleaner would take that!"

•

The Cosmetic Industry, of course, is appalled by such allegations of corruption. As one merchant put it:
"These things would never happen if people were more honest, ethical, conscientious and careful about whom they bribed."

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may be desirable. Among these would be antiperspirant creams, and deodorant preparations in general as well as hand lotions. In this latter the removal of the emulsifier would greatly increase the resistance of the residual film towards water and soap and water.

In our discussion of emulsifying agents, the new gum classifications should also be included. The most important of these are the various methyl celluloses and carboxy methyl celluloses. It would be difficult to visualize the substitution by these materials for natural gums, since though they are splendid shortening agents and in some cases suspending agents, they do not possess some of the other properties of gums which make them desirable. Most people would favor the use of substances of synthetic origin, since they are more apt to be uniform from batch to batch than are natural substances, but they should be used judiciously and their effects on the system carefully studied.

The Stopette Story

(*Continued from page 315*)

a polyethylene bottle was only the first of many technical difficulties. At that time, no glue was known which would adhere to polyethylene, and no ink was known which would adhere to polyethylene after repeated flexing of the bottle. As a result, for a period of approximately two months, the first bottles of Stopette sold through department stores carried a gold tag around the neck to indicate name of manufacturer, net content, and names of active ingredients, as requested by law. Then I developed a glue which would adhere to both polyethylene and paper having a latex base. Then, Stopette was sold with a paper band label.

The first commercial sale of Stopette took place in Chicago on July 23rd, 1947 at Mandel Brothers Department Store. The originality of the idea spread rapidly and aroused immediate interest. Within a few days of the first cooperative advertisement in the Chicago Tribune, I received many telephone calls from consumers. One in particular, a Canadian passing through Chicago telephoned he had bought six bottles.

Our sales manager, William A. Wright, contacted immediately the main cities and the most promotional department stores and took orders far in excess of our limited production at first. This is not to imply that Mr. Wright had an easy time selling Stopette at first. Many buyers were incredulous of the fact that a bottle could be made of a flexible material in the first place and hold its liquid content without deterioration for the length of usage of the bottle. Many thought it might only be a promotional idea unable to create a lasting market. A few, but very few, thought it was overpriced. Of course, we had a very solid background of tests and it was not difficult to prove our arguments in favor of the plastic bottle, going so far as to throw it violently on the floor, or to step on it with full body weight to prove its unbreakability. Stopette was merchandised exactly like a perfume, our main outlets being only department stores and selected key drug stores

for approximately a period of one year, using cooperative advertisements only, except for a half-column ad in the New Yorker magazine, starting in the Spring of 1948. Then the drug chains were approached. At the same time, a limited campaign of national advertising began through selected class magazines: Vogue, Cosmopolitan, and others.

In the summer of 1948, we began to receive requests from drug wholesalers, showing that our idea had spread rapidly among independent druggists who were already receiving calls for Stopette Spray.

In the summer of 1949, we made our first television commercials in New York showing the Stopette bottle in action and offering samples at 10c each to defray cost of handling. Although it was a limited test, the response was favorable enough to indicate to us that television was a natural way of demonstrating Stopette. For some time after that, we investigated various television shows which we thought would be suitable to promote the sales of Stopette Spray. After discarding seventeen available shows, we finally selected the last one offered to us "What's My Line?", which I believe is helping the sale of Stopette in selected markets.

Stopette soon had its imitators, but still leads the field of spray deodorants handsomely.

I believe that Stopette, which is being constantly improved, has broadened the field of deodorants very materially, and has created new users who never before had used a deodorant. It is destined to have a much larger growth as the sales, and types of sales outlets increase. During the four years of Stopette's existence, the sales increase of the product has followed a regular pattern, namely 100 per cent increase in sales each year. Sales in foreign countries and notably in South American countries, open to dollar exchange, are showing very satisfactory progress. After three short years, the combined total of all spray deodorant now constitute approximately 25 per cent of the whole deodorant market. It is, of course, difficult to predict what percentage Stopette will ultimately reach among deodorants, but it is logical to assume that, if the product is of the highest quality, is easier to apply, has an indefinite shelf life without deterioration, is more economical in dollars and cents than many other forms of deodorants, it should have the constant growth and peak position of a leading product.

Packaging of Stopette is a continuous, practically fully automatic process. The bottles are first automatically tested for neck size, blown clean by air, and then filled at the rate of 120 per minute. The only hand operation is that of placing the spray neck into the head of the bottle. After filling and installation of the spray neck, the bottles are automatically tested by being squeezed three times. This is to be certain that the spray apparatus is operating properly and that it gives the proper fan-shaped spray pattern against a certain light. The squeeze test is also made to be certain that the plastic bottle has the proper resiliency as determined by its ability to spring back into shape after being squeezed.

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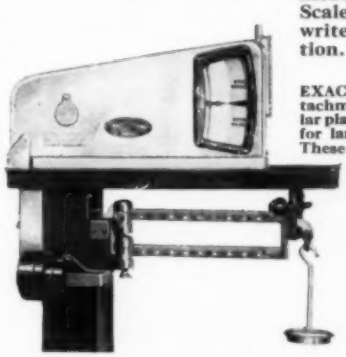

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Status of Nutritional Therapy

(*Continued from page 311*)

plain white flour, and processed fats.[1] These foodstuffs are completely devoid of any vital content and therefore, are in themselves parasitic inasmuch as they commandeer from the tissues, stored vitamin B factors necessary for their metabolism. This further depletes an already depleted system of B complex components. If two-thirds of one's daily intake is non-vital bearing, it means that the remaining one-third must provide all vital factors. This is impossible. Of this vital bearing third, more than half of its vital content will be destroyed or lost by heat in cooking, washing, storage and other multiple manipulations to which our modern foods are subjected. America's annual sugar consumption is another formidable factor that must be considered in evaluating our dietary. For the year 1949, the total sugar consumed averaged 140 pounds per person. The influence of such amounts of sugar per person per year needs no elaboration. From the foregoing it becomes clear that our daily food intake can not possibly keep abreast of our daily requirements. Furthermore even if the physician was certain that his patient had been fortunate enough to have had an adequate diet, malnutrition could still be a possibility by virtue of impaired absorption, impaired utilization, faulty retention and increased demand.

The second method for the determination of our nutritional status is a review of the mortality statistics. Information obtained thereby is worthless. Acute nutritional deficiencies or mortal severity are not common and when recognized constitute such small figures as to be negligible.

The third approach mentioned, mass medical appraisement by competent clinicians would throw much informative light on the subject. Such surveys would entail huge financial and professional expenditures and therefore can be ruled out for some time to come. We should like to mention briefly some efforts already conducted in this direction. Of two hundred patients admitted to the medical wards of Charity Hospital, New Orleans[2], 40 per cent showed definite and 67 per cent probable signs and symptoms of riboflavin and niacin deficiency.[3] According to the National Research Council[3], iron deficiency anemia was found in 1.5 per cent to 85 per cent of those children examined. In adult males, this type of anemia was found to run from 1 to 30 per cent, and in adult females, as high as 68 per cent. We are further informed that vitamin C depletion exists in 5.5 per cent to 85 per cent of those persons studied. Corneal vascularity, (ariboflavinosis), was noted in 2.3 to 75 per cent of cases examined, averaging 20 to 40 per cent in adults. Vitamin A deficiency was estimated to vary from 7 per cent to 60 per cent in the population groups under observation. These figures do and will vary by virtue of geographic, financial and social differences. Interrogations conducted by the writer indicated that at least 50 per cent

of all females will admit capillary fragility, as determined by the presence of "black and Blue" marks with knowledge of how or when the causative blow occurred. Many or all of these will further admit that their gums bleed easily upon brushing their teeth. In these cases there is no question of ascorbic acid depletion.

A substitute for all these avenues of investigation is the dissection of America's drug bill for self medication. The term, "self-medication," implies that the disorder being suffered is not severe enough to force the patient to seek medical aid and that the remedy employed is not professionally recommended. We herewith list and consider individually the amounts spent for self administered drugs in 1949.

Cathartics and Laxatives, $124,878,000.

This figure translated into individual doses of laxatives and cathartics reaches astronomical heights. There must be something radically and universally wrong with modern living responsible for such wholesale failure of such a vital function. Lack of exercise, worry, tension, pre-occupation, etc., are all collectively or individually involved to some degree. It is extremely doubtful if these factors could depress peristalsis to the point where millions of persons require daily whips to perform an absolute and normal function. We, would rather agree with Rehfuss,[5] who asserts, "the first determining cause of functional constipation is the diet."

Headache remedies—and analgesics, $115,712,000.

This sum divided into single doses of analgesics adds up to an inconceivable number of headaches and other aches and pains. Headache is extremely complex in its origin and is in itself merely a signal of trouble somewhere in the body. Constipation, tension, neurasthenia, etc., are probably all contributory factors. The writer claims the prime mover for these disturbances is nutritional failure—in most if not all instances.

Cough and Cold Medication, $191,977,000.

This figure is indicative of countless sore throats, coughs, and grippe syndromes. That "resistance" plays a formidable role in these infections no one will dispute. And again, "resistance" to a great extent is dependent upon adequate nutrition.

Tonics and Alteratives, $55,877,000.

These products, remaining vestiges of an age of hocus-pocus, are still purchased by the gullible public in an effort to ameliorate fatigue, neurasthenia, insomnia and many other vague ailments. Countless laboratory and clinical references definitely point an accusing finger at malnutrition as being a potent etiologic factor.

Stomach Sweeteners or Antacids, $33,428,000.

Probably the most conclusive piece of evidence exposing the errors and incompetence of our dietary is the consumption of colossal quantities of antacids. The above expenditure, $33,428,000, represents utterly fantastic numbers of doses. Since these compounds are very cheap, averaging perhaps one cent per dose, the total of doses will run into the billions. Outside of the relatively few cases of hyperacidity produced by

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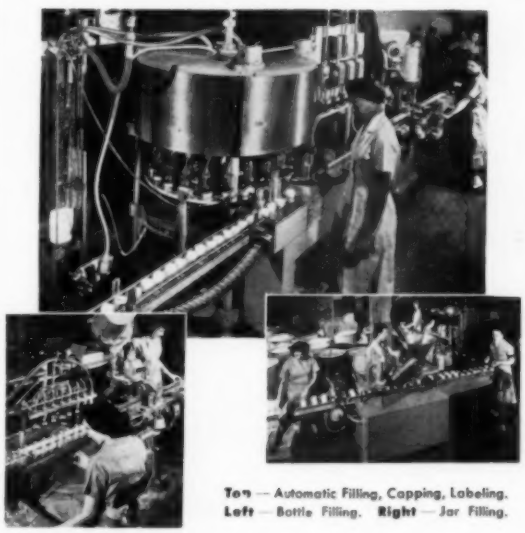

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extrinsic causes such as hypertension and possibly a few other factors, no one would contest the role of nutritional sins of omission and commission as the major culprit in so called "heartburn." The chronic use of antacids, and it must be chronic judging from the amount sold, entails several repercussions—none good. Freeman and Ivy[6] point out that antacids seriously interfere with iron retention. How many cases of frank or border line anemia stomach-sweetners have assisted to produce is difficult to say. It is known that nutritional anemia is common. The chronic use of antacids is also liable to interfere with the delicate acid-alkaline balance of the body.

Health Foods, $20,000,000.

These special types of foodstuffs, some good and some bad, were all purchased by persons who were in a state of sub-optimum health. People in really good health will simply not be bothered with health foods, except perhaps a small minority of cranks.

America's dental costs are almost beyond calculation. Ninety-eight per cent of our population suffer from dental caries. Surely no one would be so foolish as to say that dental deterioration is part of the normal physiologic pattern. It is conclusively established that dental destruction is the first phase of body function to suffer from nutritional deficiencies and errors. There exists no dispute with the facts that vitamins A, D, C, B complex, calcium and phosphorous are inescapably vital to build the dental arch, and that excess carbohydrates, especially sucrose, can and does destroy this structure.

The money spent for self medication is perhaps the only barometer of our general health. It spot-lights two generally unrealized conditions; first, that many millions of persons are neither completely well nor clinically ill who do not consult a physician until forced to do so by full blown disease; these chronic, low-grade ailments are in the main, spawned by inadequate or destructive nutrition. An equation consisting of the millions of persons who are neither ill nor well as estimated by our expenditures for self-medication, plus a thorough appreciation of our highly refined and predominantly starch and sugar diet, yields the conclusion or strong suspicion that nearly all of our population are in a mild state of nutritional inadequacy.

The question might be raised, perhaps the physician's failure or reluctance to employ nutritional therapy might be due to his unfamiliarity with the signs and symptoms of malnutrition. In the Journal of the American Medical Association, as far back as February 21, 1942, there was published a list of tentative clinical criteria for the recognition of nutritional failure in infants, children, adolescents and adults. This data was assembled by the National Research Council and has been repeated in many forms in various publications. That it did not come to the attention of the average practitioner is neither possible nor probable. We offer below these signs and symptoms with which any physician could easily diagnose or at least suspect malnutrition:

CHART No. 1

"Symptoms and Signs Suggestive of Early Deficiency States in Infants and Children"

Symptoms	Physical Signs
1. Lack of appetite	1. Lack of subcutaenous fat
2. Failure to eat adequate breakfast	2. Wrinkling of skin on light stroking
3. Failure to gain weight steadily	3. Poor muscle tone
4. Late period of sitting, standing, walking	4. Pallor
4. Aversion to normal play	5. Rough skin—toad skin
6. Chronic diarrhea	6. Hemorrhage of newborn
7. Inability to sit	7. Bad posture
8. Pain on sitting and standing	8. Nasal blackheads and whiteheads
9. Poor sleeping habits	9. Sores at angles of mouth, cheilosis
10. Repeated respiratory infections	10. Rapid heart
11. Backwardness in school	11. Red tongue
12. Abnormal intolerance of light photophobia	12. Square head, wrists enlarged, rib beading
13. Abnormal discharge of tears	13. Vincent's angina, thrush
	14. Serious dental abnormalities
	15. Corneal and conjunctival changes

CHART No. 2

"Symptoms and Signs Suggestive of Early Nutritional Failure in Adolescents and Adults"

Symptoms	Physical Signs
1. Lack of appetite	1. Nasolabial sebaceous plugs
2. Lassitude and chronic fatigue	2. Sores at corners of mouth, cheilosis
3. Loss of weight	3. Vincent's angina
4. Lack of mental application	4. Minimal changes in tongue color or texture
5. Loss of strength	5. Red swollen lingual papillae
6. History of sore mouth or tongue	6. Glossitis
7. Chronic diarrhea	7. Papillary atrophy of tongue
8. Nervousness and irritability	8. Stomatitis
9. Burning, prickling of skin paresthesias	9. Spongy bleeding gums
10. Night blindness	10. Muscle tenderness
11. Abnormal intolerance to light photophobia	11. Poor muscle tone
12. Burning or itching eyes	12. Loss of vibratory sensation
13. Abnormal discharge of tears	13. Increase or decrease of tendon reflexes
14. Muscle and joint pains, muscle cramps	14. Hyperesthesia of skin
15. Sore bleeding gums	15. Bilateral symmetrical dermatitis
16. Tendency to bleed	16. Purpura
	17. Dermatitis, varied
	18. Thickening and pigmentation of skin over bony prominences
	19. Nonspecific vaginitis
	20. Follicular hyperkeratosis of extensor surfaces of extremeties
	21. Rachitic chest formation
	22. Anemia not responding to iron
	23. Fatigue of accomodation
	24. Vascularization of cornea
	25. Conjunctival changes

It is safe to say that with few, if any exceptions, every patient seeking medical assistance, will present many of the above symptoms and signs. No matter what the pathology, any treatment instituted would be assured of faster and more certain recovery, if the underlying nutritional failure were treated simultaneously. This statement needs no support. We offer the following reports merely because they are so parallel with the writer's opinions. "Depletion of the critical water soluble B Complex and C vitamins occurs so commonly in the presence of physical pathology, as to make a presumption of nutritive impairment[9] almost axiomatic. Essential to normal cell metabolism and wound healing, these poorly stored, readily-

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diffusible factors must be replenished—usually by massive dosage—if tissue rehabilitation[10] and return to health[11] are to be expedited."

CHART No. 4
Types of Prescriptions

Total number of prescriptions all types	6269
Number of prescriptions containing one or more nutritional components	356
Percentage of total containing nutritional components	5.67%

CHART No. 5
Daily Intake—Minimum—Maximum—Average

Daily Intake	B_1	B_2	B_6	B_{12}	*Folic Acid*	*Niacin*	*C*	*A*	D	*Panto Acid*	*Iron*
Minimum	0.45 mg.	0.50 mg.	0.25 mg.	1 mcgm.	1 mg.	1 mg.	35 mg.	100 U.	50 U.	0.6 mg.	0.5 grain
Maximum	200 mg.	60 mg.	150 mg.	200 mcgm.	10 mg.	600 mg.	750 mg.	75,000 U.	4200 U.	60 mg.	30 grains
Average	22 mg.	9 mg.	3 mg.	25 mcgm.	2.5 mg.	92 mg.	250 mg.	13,000 U.	1650 U.	1.5 mg.	9 grains

CHART No. 6
Daily Dosages of Vitamins for Specific Deficiencies[7]

Deficiency	Mild	Moderate	Severe
Vitamin A	100,000 U.	200,000 U.	200,000 U.
Vitamin D	2000 U.	2000 U.	2000 U.
Thiamine	10-30 mg.	20-50 mg.	50-300 mg.
Riboflavin	10 mg.	10-20 mg.	20-50 mg.
Niacin or amide	300-500 mg.	500-1000 mg.	1000 mg.
Ascorbic acid	500 mg.	500-1000 mg.	1000-2000 mg.

Spies,[8] et. al., claim the efficient dose of folic acid to be 10 mg. and vitamin B 12, 150 mcgm. Together they seem to potentiate each other and therefore should be administered as such. Chart #5 shows the average for folic acid to be 2.5 mg. and for B 12, 25 mcgm. According to Spies, et. al. these patients for whom these supplements were ordered, will obtain little or no benefit from such ineffective dosage.

A moment's consideration of the minimums and maximums found in chart #5 shows an enormously wide variation in dosage. Actually the averages found in chart #5 are misleading. It is only by the occasional directive for a really therapeutic dose that these figures are brought up to where they are somewhat tolerable. Individually the majority of the doses were feeble and inconsequential. Iron was the only exception. The physician seems to have a working knowledge so far as this mineral is concerned. Application of same would be immensely more effective if prescribed with vitamin B 12 and folic acid. There are only several such prescriptions. The most serious vacuum or misconception that exists in the practitioner's attitude is an understanding of the over-all science of nutrition. To many, thiamine is the entire story. To others, iron is the only factor in anemia. It is common knowledge to every one at all versed, that avitaminotic states are multiple—never singular and can be cured only by the supplementation of all known factors. Individual components of the nutritional chain are inter-dependent and interlocking in their negative and positive effects. Almost invariably, the water phase or B group are found together in nature. Also is this true of the oil phase or vitamins A and D. Vitamins K and E may be found separately.

The irrefutable facts are now in focus, namely, that the average clinician is not impressed with nutrition nor its therapeutic application. This is amply

supported by the fact that only 5.67 per cent of all prescriptions written contain one or more nutritional factors. The excuse that only 5.67 per cent of the patients represented required, nutritional supplementation is intolerable. Furthermore this study finds that in those relatively few cases where nutritional failure was given recognition, and treatment instituted, such efforts were incomprehensive and impotent. Insufficient or no therapeutic response in such instances resulted in further condemnation and indifference.

It should also be pointed out that many physicians treat nutritional therapy so lightly that instead of writing a prescription, they merely give the patient vague, incomplete, verbal instructions. There is no reason to assume that application in these cases would be any more, or even as intelligent, as the written prescription.

Summary:

1. Of 6269 prescriptions studied, only 5.67 per cent contained one or more nutritional factors.

2. Analysis of this 5.67 per cent reveals an unfamiliarity with all aspects of nutrition, diagnostically, qualitatively, and quantitatively.

3. With rare exception, practically every pathology will be found superimposed upon nutritional failure. Any treatment indicated would be more effective if nutritional deficiencies and errors were corrected simultaneously.

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Industrial Skin Protectives

(Continued from page 319)

accounts for less than 20 per cent of all occupational dermatoses. In his opinion, race, sex, age and diet play only minor roles as predisposing causes.

The actual causes of occupational dermatitis include mechanical, physical and chemical agents, flowering plants and their products, and biological agents.[3] Since this review is primarily concerned with skin protective creams, the chemical agents are obviously the most important factors in this discussion. These industrial compounds are divided into two main groups:—the primary irritants and the sensitizers. The primary irritants comprise a group of compounds which have a direct chemical or physical action on the skin if allowed to remain in contact in sufficient concentration and for a sufficient period of time. Strong acids, strong alkalies, metallic salts and solvents belong in this class.

Under the same circumstances, a primary irritant is harmful to everyone. In contrast, explains Macaulay,[5] the sensitizers are substances which in ordinary concentrations are harmless and they may be handled

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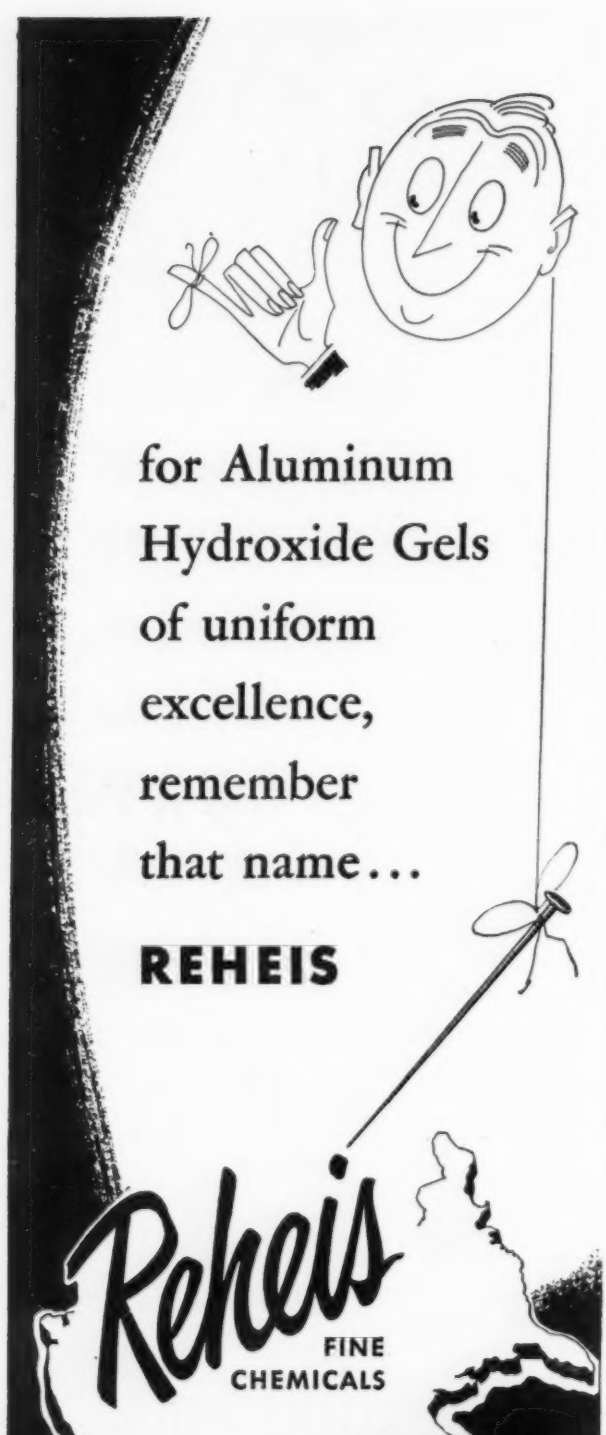

without ill effects to begin with. On repeated exposure, however, a sensitivity or allergy is developed in some workers and they cannot contact the responsible substance without danger. Moreover, once a worker becomes sensitized to one substance, he is prone to develop other sensitivities.

Almost all chemical substances are potential sensitizers. However, the most frequent offenders in this class include certain dyes and dye intermediates, photographic developers, rubber accelerators and antioxidants, insecticides, natural and synthetic resins, and explosives. It should also be mentioned that the same substance in different concentrations may be either a primary irritant or a sensitizer. Obviously, industrial progress and the use of new materials continue to add to the list of substances known to be primary skin irritants or sensitizers. As remarked by Tabershaw,[14] many of these materials are of great importance in war industries, especially in regard to explosives.

The statistics gathered by Brinton and Schwartz[15] are especially interesting with respect to the major offenders. From a study of 41,628 dermatitis cases, the principal material exposures in these instances were petroleum products and greases, alkalies, solvents, plants and woods, and metals and metal plating. More recently, Morris[4] stated that 38 per cent of all the conditions were caused by only four groups of compounds. These included industrial solvents, oil, trauma and its management, and rubber and its compounds. Adding three more groups—namely resins, soaps, and chrome and its compounds—it is possible to account for 50 per cent of all cases. The remaining half is attributable to a highly diversified lot of unrelated causes.

As noted by Bloomfield,[16] the principal methods of preventing occupational dermatitis are: pre-employment examinations, ventilation, protective clothing, cleanliness, and protective ointments. Similarly, in discussing the role of protective creams, Schwartz and Campbell[17] observe that cleanliness of working environment, clean protective clothing, and harmless cleansers are important personal preventive precautions that are effective against all skin hazards.

These authorities remark that while protective ointments do not hold a high position on the list of preventive measures, they are often the only available means of protection. This is the case, for example, in the more delicate tasks which must be performed with the bare hands. It has also been found that many workers dislike wearing protective clothes, but do have a definite preference for protective creams and will use them quite consistently.

Unfortunately, workmen tend to place too much reliance in the protective creams and too little on the much more important general protective measures.[6] However, when a protective ointment is used; the worker invariably washes it off with soap and water at the end of the work day and so removes not only the ointment, but the chemical irritants as well. This

need for washing constitutes one of the outstanding reasons for encouraging the use of the protectives. Obviously the beneficial effect is obtained only if the protective substance is applied to a clean skin. Otherwise any deleterious substance is sealed in exactly to the same extent to which industrial irritants are sealed out.[18]

It is generally agreed that the primary function of an industrial skin protective preparation, whether it be an ointment, cream or lotion, is to form a barrier film between the skin and the dirt, grime or other compounds likely to cause a dermatitis. In addition to this essential characteristic, an efficient skin protective should possess other desirable properties. Thus, according to the Committee on Occupational Dermatoses of the American Medical Association,[19] these protective applications (a) Must be of such consistency that they remain on the skin satisfactorily so as to furnish adequate protection against irritant contacts during the work period; (b) They must be easy to apply before work and be readily removed after work; and (c) They must not contain primary irritants or sensitizing agents.

Similar standards have been set up by the British Ministry of Labour. Thus, as cited by Horner,[20] a barrier cream must fulfill the following important conditions: (a) It must be nonirritant to the skin, and to this end must have a pH approximating that of the skin, e.g. 5.5 to 5.6; (b) It must be insoluble in the substance against which it provides protection; (c) After application, it should not leave the hands slippery or sticky; and (c) It must be easily removable by ordinary cleansing methods not entailing the use of special removers.

Of course, the skin protective should be economical to use. There is also growing appreciation of the fact that the product should have an agreeable appearance. Therefore it is of great importance that the protectives must not only be effective but cosmetically acceptable to workers as well.[21-22]

A number of tests have been proposed for evaluating the actual efficiency of a protective barrier cream. Of course, as remarked by Sadler and Marrcot,[23] the ultimate evaluation must be measured by the success attained in actual practice. However, before such trials, there should be a preliminary weeding out of unsuitable preparations by means of certain laboratory tests.

One such test consists in spreading the cream on a suitable glass surface and allowing it to dry to a film. This film is carefully removed from the glass and immersed in the liquid against which it is supposed to be a barrier. By determining the time required for the film to disintegrate, it is possible to determine the comparative efficiency of various creams. In another qualitative test, the cream is merely shaken with aqueous solutions. If the product is truly water-repellent it will not disperse in the fluid. Other qualitative tests are cited by Sadler and Marriot and by others.[2-24]

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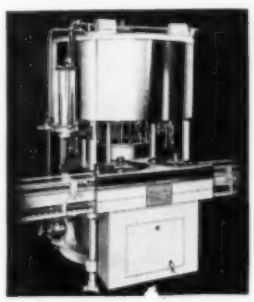

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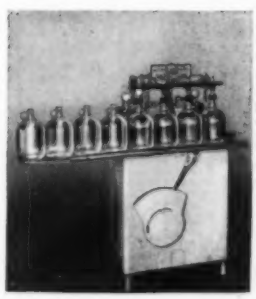

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Hopf.[25] He attempted to measure the penetration of protective ointments into the skin and the degree to which they hinder the entrance of solid particles as indicated by later application of an ointment containing particles of Sudan red and methylene blue. Experiments showed that oil-in-water emulsions have a better protective effect against powders and fat-soluble materials then do water-in-oil emulsions. Beeswax and artificial wax (Lanette wax) proved to be the best fat base for the oil-in-water emulsions because these substances are quite cohesive and have a high melting point. Best results were obtained with an ointment composed of:

Glycerine	**8-14 per cent**
Wax	**16-20 " "**
Water	**65-70 " "**

Many attempts have been made to produce a universal skin protective, but until such a product is developed the type of cream must be formulated to suit the particular risks. As remarked by Goldman,[6] protective creams should not be used indiscriminately because each type of contact demands a different type of combination.

Quite a variety of industrial skin protectives are available commercially. Although many of these products have more or less specific fields of application there is often considerable overlapping both in indications and in components.[26] For convenience, however, industrial skin protectives can be classified into five broad groups, as follows: (a) Pore-filling products based essentially on vanishing cream formulations; (b) Suitable basis containing a high proportion of inert powders; (c) Compounds consisting essentially of water-repellent fatty substances; (d) The "invisible glove" types which depend on the formation of a protective film on the skin; and (e) The rather special preparations which protect against specific irritants.

The first class, the simple vanishing cream types, comprises preparations which fill the pores with a soap or similar material and facilitates the removal of soil when washing after work. Such products can be expected to do an efficient job of protecting the hands against grime, dyes, ink or paint, but they have the disadvantage of being rather poorly resistant to water.[24] A typical product of this kind, one that has been cited often was given originally by Schwartz[26] as follows:

Stearic acid	**20 parts**
Sodium carbonate	**2 "**
Glycerine	**6 "**
Water	**78 "**

Another typical soap-based product is provided in the following cream[27] which protects the hands against oil and grease, but which can be removed readily by washing:

Soap flakes	**7.50 Gm.**
Glycerine	**25.00 cc.**

Sodium silicate	**25.00 cc.**
Tragacanth	**0.20 Gm.**
Oil of lemon	**0.05 cc.**
Water, to make	**100.00 Gm.**

Members of the second major group of protectives consist of compounds which serve as protective binders for inert powders that adhere to the skin and form physical barriers against skin irritants.[17-26] Suitable powders include calamine, titanium oxide, zinc oxide, iron oxide, keiselguhr, bentonite, talc and others. One of the simplest of such preparations is a vanishing cream base containing 5 per cent each of talc and zinc oxide.[25] Another preparation,[19] a thick paste which leaves an impervious covering is somewhat sticky and soiling and therefore appropriate only in certain work. This consists of:

Zinc oxide	**25.0 per cent**
Kaolin	**25.0 " "**
White petrolatum	**50.0 " "**

Several years ago, considerable interest was shown in the protective cream developed by Downing, Ohmart and Stoklosa.[20] After testing a number of formulas, they prepared the following product:

Stearic acid	**10.0 Gm.**
White wax	**2.0 Gm.**
White petrolatum	**4.5 Gm.**
Triethanolamine	**1.5 cc.**
Glycerine	**8.0 cc.**
Distilled water	**54.0 cc.**
Talc	**20.0 Gm.**
Perfume	**sufficient**

Melt the wax, stearic acid and petrolatum on a water bath and heat to 85°C. Mix the triethanolamine, glycerine and water and bring to the same temperature. Add the aqueous solution to the oily mixture, remove from heat and stir until congealed. Incorporate the talc with this base by grinding or milling and add the perfume.

Given several months' trial in industries where workers are exposed to mechanical irritants and several types of grime, this cream was effective in reducing the incidence of dermatitis due to these causes. It contains no irritants or sensitizers, is easily removed, stable, relatively inexpensive and readily prepared.

Of kindred interest is the following barrier cream which, according to Holland,[30] protects against mechanical injury from grinding powder, metal filings, sand or glass splinters by means of the inert powders which form a protecting layer:

Zinc oxide	**5 parts**
Talc	**5 "**
Ferric oxide	**1 part**
Carrageen	**2 parts**
Benzoin	**2 "**
Water	**10 "**
Alcohol	**15 "**
Vanishing cream	**60 "**

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The third major group of skin protectives are essentially greasy preparations which cover the skin and fill the pores to repel water-soluble irritants and prevent entrance into the pores of harmful petroleum oils, greases and coal-tar derivatives. Because they act as buffers against solvents, such preparations may also be used as protectives against these hazardous fluids. Such greasy preparations provide superior proetction against aqueous solutions and they keep the skin well lubricated. However, they interfere with heat radiation, leave the hands unpleasantly greasy and may cause slipping and dropping of tools and other objects. The greasiness often can be remedied by dusting powder on the hands after applying the cream.[24]

In Anderson's[31] opinion, ordinary wool fat is about the best material available as an all-purpose protective cream. Generally, however, lanolin is used as one of the components of the ointments, to provide added protective and emollient effects. Thus, a simple preparation for protecting the skin against the effects of hydrocarbon solvents, cutting oils, pitch and the like may be made from 70 parts of anhydrous lanolin and 30 parts of castor oil. About two parts of a synthetic detergent may also be included in a greasy product of this kind to facilitate washing and removal of the film.[18,24]

The following is recommended[19] where there is prolonged contact with water:

White wax	**10.0 per cent**
Hydrous wool fat	**5.0 " "**
Sulfonated olive oil	**10.0 " "**
Petrolatum	**75.0 " "**

A more modern type of protective cream that is useful against hydrocarbon solvents and all types of irritants of an aqueous nature, such as emulsified cutting oils, is provided in the industrial literature.[32] This formula, given as follows, is basically greasy, but it is so compounded as to permit ready removal from the hands with soap and water:

Polyoxyethylene sorbitan monostearate (Tween 61*)	**5.0 per cent**
Lanolin	**25.0 " "**
Castor Oil	**25.0 " "**
Ceresin wax, 64°C	**5.0 " "**
White petrolatum, to make	**100.0 " "**

Melt the first three ingredients together, add the ceresin and, after it is dissolved, incorporate the petrolatum. Pour just before the composition begins to set. (*Tween 61 is a product of Atlas Powder Co., Wilmington, Del.)

The fourth class, the invisible glove type of products, are subdivided into two groups; depending on whether water-miscible or water-repelling film-forming agents are used. As remarked by Schwartz,[26] the water-soluble films provide some protection against solvents and water-insoluble allergens, like trinitrotoluene and tetryl. Film-forming agents for this type of protective

include methyl cellulose, Irish moss, sodium silicate, quince seed, karaya, acacia, tragacanth, casein, sodium alginate, pectin and solubilized shellac. Unfortunately, these products show a bending to be loosened from the skin by perspiration, but this can be counter-acted, to some extent, by the use of fats and oils.

One preparation of this sort calls [20,26] for the use of:

Acacia	**5 parts**
Tragacanth	**5 "**
Borax	**2 "**
Water	**88 "**

Methyl cellulose has found increasing use in the production of these invisible gloves.[33] According to Davies,[34] a product like the following forms excellent films that are tough and resistant to torsion and are insoluble in acetone and various other organic solvents:

Methyl cellulose	**6.0 per cent**
Liquid petrolatum	**10.0 " "**
Glycerine	**10.0 " "**
Preservative	**sufficient**
Water, to make	**100.0 per cent**

The second subgroup makes use of such water-resistant film-forming agents as nitrocellulose or ethyl cellulose, natural gums like benzoin or mastic, and certain synthetic resins, like polyvinyl acetal. Organic solvents are required in the production of such composition and similar agents are needed for their removal from the skin. Hence, their use may cause defatting and irritation of the skin. Therefore, when such protective films are used, it is advisable to employ an emollient; a mixture of lanolin and cold cream being recommended by Schwartz.[26]

Typical of this kind of water-resistant preparation is a lotion consisting of:[35]

Ethyl cellulose	**4 parts**
Gum mastic	**6 "**
Castor oil	**1-2 "**
Acetone or benzol, to make	**100 "**

Finally there is a miscellaneous group of skin protectives which are more or less specific for use against various cutaneous irritants and sensitizers. During World War II, for instance, protectives were developed to help decrease the incidence of dermatitis from explosives based on tetryl or trinitrotoluene. Thus the following was found[36] to give better protection than any other product then available:

Shellac	**13 parts**
Isopropyl alcohol	**31 "**
Linseed oil	**4 "**
Titanium oxide	**12 "**
Sodium perborate	**13 "**
Talcum	**20 "**
Monoethyl ether of diethylene glycol (Carbitol)*	**3 "**

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The resulting film can be removed after work by washing with water. It was also found that the following water-soluble type of invisible glove appplication provided considerable protection:

Casein	**20 parts**
Zinc oxide	**20 "**
Iron oxide	**2 "**
Water	**58 "**

In England, Cumming and his colleagues[37] developed a barrier cream which showed protective action for six hours against tetryl, mercury fulminate and T. N. T. This was made from:

Hard paraffin (m.p. 135°C.)	**20.0 per cent**
Soft paraffin	**40.0 " "**
Emulsifying wax	**10.0 " "**
Water	**30.0 " "**

Pertinent here is Horner's[20] warning that animal fats should not be used in barrier preparations against substances which carry a risk of skin absorption and thereby cause local or systemic effects. Among such substances are T. N. T., nitrobenzene, aniline compounds, as well as certain mineral oils, pitch and tar with carcinogenic properties.

This last recalls a report by Ross[38] on occupational skin lesions caused by pitch and coal-tar. To prevent tar erythema, he advises the use of a product made from:

Starch	**28 Gm.**
Kaolin	**1600 Gm.**
Phenol	**36 Gm.**
Glycerine	**50 cc.**
Distilled water	**2 liters**

Also important are the so-called flash burn creams. These have been used in steel mills, on shipboard and elsewhere where burns can readily result from heat waves of high temperature and short duration. The Armed Forces were also very much interested in such creams. A comprehensive description of one such preparation was given by Glickman[39] in this publication. Another example of this type of product calls[32] for the use of:

Titanium dioxide	**40.0 per cent**
Petrolatum	**30.0 " "**
Sorbitan sesquioleate (Arlacel C*)	**10.0 " "**
Magnesium stearate	**10.0 " "**
Water	**8.0 " "**
Iron oxide	**2.0 " "**

In addition to these preparations which act chiefly as physical barriers, there are skin protectives which contain materials intended to chemically neutralize or detoxify certain irritant or sensitizing substances. Among products of this "chemical antidote" type are those based on the use of acids and alkalies, as well as on the employment of sodium hydroxide to prevent

*Atlas Powder Co., Wilmington, Del.

irritation from rubber, of sodium sulfite for chromium compounds,[6] and of certain per salts to react with harmful oxidizable substances.[17] Thus, as remarked by Hopkins,[40] if protection is sought against acids the inclusion of aluminum or magnesium hydroxide or phosphate is indicated. Conversely, an acid, such as boric or benzoic acid, may be included when alkaline working conditions must be considered. Illustrative is the following ointment of the vanishing cream type which serves to protect the skin from alkaline solutions, such as those employed in treating silk:[41]

Lanolin	**90.0 parts**
Stearic acid	**50.0 " **
Triethanolamine	**2.7 " **
Carbitol	**18.0 " **
Boric acid, saturated solution	**120.0 " **

Also indicative is an English formula[42] for a barrier cream against chlorine bleach. This is made from:

Wool fat	**10.0 per cent**
Lanette wax	**10.0 " " **
Sodium thiosulfate	**5.0 " " **
Water	**10.0 " " **
Soft paraffin, to make	**100.0 " " **

In addition to these preparations there are products containing substances which protect the skin from such photosensitizing substances as coal-tar and its derivatives and various oil distillate fractions. The protective agents in such creams or ointments may be one of the chemical screening agents, including various salicylates, tannates and other compounds, or purely mechanical or physical screens or blocking agents like zinc oxide, titanium oxide and others. Knowledge of the formulation of antisunburn preparations should be useful in this connection.

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